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## WHAT THE COLLEGE HAS A RIGHT TO EXPECT OF THE SCHOOLS IN ENGLISH<sup>1</sup>

W. A. NEILSON

Professor of English, Harvard University

I should like to begin by drawing your attention to the form in which the subject of my remarks is stated: "What the College Has a Right to Expect of the Schools in English;" not, I am thankful to say, What the college expects of the schools. This I should never attempt to answer; first, because I have no authority from any college to interpret its mind on this point; second, because I doubt whether the colleges in general have any clearly realized expectation on the subject. But what the college has a right to expect we may all speculate about, and you and I may as freely utter ourselves on the question as any official or committee or faculty.

It seems easiest to begin with two things which the college has no right to expect. First, it has no right to expect to dictate to the school its whole curriculum in English. I do not say that it has ever claimed a right to do this; but it would not be difficult to point to entrance requirements which imply something very like it. But the claim is obviously unfair, for our secondary schools are not mainly or primarily fitting schools. It is but a small minority of their students who go to college, and it would be unwise to determine the English curriculum

<sup>1</sup>Notes of an address given before The New England Association of Teachers of English, November 16, 1907.

by the needs of the minority, unless it could be shown that preparation for college is also the best preparation for the student who goes to work at once. Second, it has no right to dictate the method of teaching. It may, of course, advise, and expect its advice to be heard with respect. But only a small proportion of college teachers have had experience in schools, and they are as a whole not wise enough or experienced enough to be able to claim authority over the methods to be used in another branch of the profession.

Speaking in general on the positive side of our topic, one might say that what the colleges have a right to expect of the schools is that they should bring the pupils to a certain level of culture. Our task now is to define as precisely as may be what this level of culture is. From the college point of view it implies the preparation of the student's mind in such a way as to render it receptive of the information and responsive to the training which the college has to give. This preparation itself involves both information and training, and on these points we must try to be specific.

The pupil should have been taught to *speak*. No part of the preparation is more important; no part is more commonly ignored or more imperfectly accomplished. Boys not only come to college but leave college, who have difficulty in constructing orally a sentence of any complexity or length, or conducting a conversation without slang and with clear articulation. This is surely a matter for the schools, if the homes have not already done it. The colleges have a right to expect that a candidate for admission should be able to speak with fair distinctness and accuracy of pronunciation, to express his own ideas in grammatical sentences, and in language free from the jargon of the streets.

The pupil should have been taught to *read*. By this is to be understood not merely the putting together of symbols and sounds, but the training of the mind to concentrate upon the sense of what is written, and to refuse to pass on until the sense has been grasped. This capacity is often gained by students late, sometimes not at all. In a class in Bacon's *Essays* in Harvard College, I have found my chief difficulty to lie in leading the

students to realize when they have not understood. The great amount of ground to be covered both in school and college is perhaps the reason for the common slovenliness in reading. If so, we should seek to reduce the quantity; but about the necessity for this training in extracting the marrow of an author there can be no question. Reading should also include reading aloud. It is common to lament this as a lost art. Certainly few of my students can read a passage of English prose with intelligibility, force, and a sympathetic modulation. Yet, both as a highly desirable accomplishment, and as a means of teaching and testing the appreciation of literature, reading aloud is of immense importance. It is, unfortunately, one of the qualifications concerning which, so far as I know, the statements of entrance requirements in all colleges are silent. It would be difficult, though perhaps not impossible, to place it among these requirements and to examine on it; but, in any case, it is surely the business of the schools.

The pupil should have been taught to *write*. If the training in speaking already discussed has been attended to, this, I think, is not so laborious a matter as it is sometimes considered. It does, of course, imply further detail. Any statement of college requirements is explicit as to the correct use of words, the construction of sentences and paragraphs, spelling, and the employment of capitals and punctuation. I do not know that anyone disputes the right of the college to demand these things, and few if any schools in New England fail to attempt to supply them.

More debatable ground is reached when we come to the question of literature. There are two parts to this question: that concerning the teaching of literature as such, and that concerning the teaching of the history of literature. On the former of these something has already been implied in what has been said of reading; and to that might be added the explanation of allusions. Here lies the teacher's main opportunity for the imparting of that general information the range of which is one measure of the culture of both teacher and pupil. Clearly no definition of amount can be given here: the important point is that the pupil should be trained to pass over nothing that he does

not understand. The matter of allusions is worth dwelling on for a moment. The pleasure to be derived from an allusion is dependent on previous acquaintance with the fact alluded to. In the absence of such acquaintance, an allusion is not an allusion, but a conundrum. Yet no one can seriously propose to pass it over unexplained. The two great sources of allusion in our literature are the Bible and the classics. Neither of these is known to our generation of students as they were known to readers contemporary with the authors of the chief masterpieces of English literature; and matters are becoming worse rather than better. Clearly then, so far from giving up the laborious explanation of these things, teachers of English have to face the task of making up for this lack of literary background by supplying generously whatever is called for to insure complete intelligibility of the texts read in school. If the labor which this involves for both student and teacher interferes *for the time* with the artistic appreciation, let us say, of Milton, the fault is in the situation, not in the method which the situation makes necessary. Gradually, by such teaching, a background will be acquired, other poems will be made easier and more enjoyable, and in the long run even the poems which have become of necessity a means of training will be returned to with pleasure.

Much the same position must be taken with regard to all the matters contained in the notes to a well-edited text. One often hears protests against "note-cramming." "Note-cramming" is a bad name for a good thing, if it means only the acquiring of the information necessary to make a piece of literature intelligible. If it describes anything else, it describes a stupid way of performing a necessary task. No method is safe with a poor teacher. Our concern is with results; and we maintain that the college has a right to expect that what the student reads in school he shall be taught to understand. As for the direct cultivation of taste and appreciation, vastly important though it is, I believe that no specific demand can be laid down. The teacher with a gift for this may be trusted not to fail to exercise it; the teacher without a gift had better leave it alone. I cannot see



that any college has a right to set up a requirement in artistic appreciation.

In the history of literature, there is no difficulty in making a requirement specific or in examining. The question is rather as to whether there is room for it in the curriculum. But this much, I think, may fairly be asked, that such an outline of literary history be taught as will provide the student with the ability to place in their period and environment the works and authors that he reads, and with some knowledge of their relative importance. Whether this is to be done by means of a regular textbook, or incidentally in connection with books read, may be left to the individual school.

It will be observed that I have given the college a right to expect a great deal that may never be directly examined upon. I think this is as it should be. No teacher whom I am addressing expects to get recognition in examination points for all he does. And our concern here is not with examinations and their remote and helpless approximations. Our programme has permitted us for this morning to concern ourselves with some of the realities of our profession.

## PARENTS' ASSOCIATIONS<sup>1</sup>

NATHANIEL BUTLER  
The University of Chicago

Anyone familiar with the history of education must, as he has followed the story, have been impressed with the fact that almost from the beginning and all down the line there have been seers and prophets who had entirely distinct visions of all we are accustomed to think has been revealed to us in these latter days. Aristotle and Plato, Alquin and Luther, Rousseau and Locke, Comenius and Leibnitz, Francke and Pestalozzi, would have made very respectable figures upon even a twentieth-century board of education. Like the prophets of righteousness in old Israel they came to their own, and their own received them not; but they themselves were there and that fact has direct results for us. The new education is largely the fruit of the tree they planted. Froebel was, perhaps, more fortunate than some of these messengers. When he exclaimed, "Let us live with our children," he struck a fundamental note in education, a note to which many hearts responded. It was the utterance at once of loving sympathy and of profound educational philosophy. It had been in the heart of every mother since the world began, and needed only articulate expression to impart to education an impetus that has been gathering momentum ever since.

One thing none of these seers appears to have hit upon, namely: The Parents' Association. The Parents' Association seems to be a veritable exception to the general statement that "there is nothing new under the sun." It remained for our own time to supplement Froebel's call, that we live with our children, with the cry, "Let us live and work with the teachers of our children." It is trite to say that the school is not the only agency concerned in the education of the child. It is doubtful whether

<sup>1</sup> Read at the Educational Conference of the Academic and High Schools in Relations with the University of Chicago, November 9, 1907.

it is even the chief agency. These are in fact as many as are the influences to which the child reacts. The home, the church, society, vocation, the press, the pulpit, the stage, and the concert—even the climate and the scenery—have their part in the making of the individual. Among these, however, the two that seem most potent and most naturally in alliance are the home and the school.

If the child is to be seen "whole" he must be viewed from two standpoints—that of the parent and that of the teacher. The teacher should direct him in the light of a knowledge of what demands the home makes upon him and what helps and hindrances he encounters there. On the other hand, the parent should know how he reacts to the school and what the school expects from him. My treatment of my boys may be radically modified by what the school knows and can tell me about them. I know a boy fifteen years old who has been doing discouragingly poor work for a year. The school has been rather down on him and the home has been perplexed and displeased. Neither home nor school seemed quite able to solve his problem, but home and school put their heads and hearts together and discovered that the boy had gained thirty pounds in the last two years and the mystery was solved and discouragement and perplexity were at an end. The boy has been doing all he could, but heart and brain have had work on hand that the curricula did not recognize. The boy has only to wait a little until the centers of his physical energy have time to catch up with their work. The principal of one of the great city high schools told me recently that his own boy had gained fifty pounds in a year and that in his judgment the boy needed most to sleep a large part of the time. In this latter case school and home came together in the person of the father. In the former case school and home had to work together to interpret the situation.

When the home projects itself into the school the home finds out a lot of things most useful for the home to know—useful for the boy or girl and useful for the community of which the pupil is to become a responsible member. At a recent meeting of the parents of the first- and second-year pupils in one of our

great high schools specific topics were discussed throwing light for parents and teachers upon the student's programme of studies, division of time, his endurance, and the like. Questions as to the inviolability of the student's recreation time came up. The questions were asked and discussed, how many hours of sleep the average boy or girl ought to have, and whether a rapidly growing boy might profitably stay out of school for a year. It was useful for a good many of the parents to have the opinion of the school upon these points, and the school received a good deal of light from the parents.

But over and above the specific questions which may profitably be asked and answered in the conference of teachers and parents, the whole feeling and attitude of a school faculty is changed when its members know that the parents really "care." Teachers are not always distinctly aware of it, but either distinctly or vaguely the courage of the school is really depressed by the feeling on the part of teachers that when the children have been fairly started in school, the home washes its hands of responsibility and gives itself up to bridge-whist and the matinee, to the golf-links and the country club, or even to the social settlement and the foreign mission-board. An interview with the parent sought by the parent himself, a word that gives the school assurance that the home intelligently appreciates what the school is trying to do and wants to help—in short, direct assurance from parent to teacher that the home is as anxious about the child as the school is, gives the school new motives and new courage. It transforms the whole situation.

We have become in these days familiar with a large extension of the word "social." It is understood to apply not only to those relations which we sustain to our neighbors when we meet them at an evening function in our best clothes, our best manners, and our best moods, but to those larger relations also which we sustain to our fellow-citizens in all matters that pertain to a better community life. Using the term "social" in this larger sense we have come to agree that the supreme effort of the school is to train the individual for social efficiency, or in other words for intelligent and effective participation in community life. Dean

Owen told us the same thing last year when in this very place he said that the school is a social institution (1) in that it is an agency for socializing individuals, and (2) in that it is in itself a society. It is clear that the school could not socialize individuals except by being itself a society—a laboratory in which hourly the social life is lived. In this actual life of social relations, boys and girls are to learn that the words “duty” and “responsibility” are larger and more interesting than “rights” and “privileges;” that responsibility is not a thing to be submitted to but to be sought; that duty is not properly an object of surrender, but of devotion; that every man is to be in this world not merely a consumer but also a producer; that he is to add his full share to the sum-total of useful activity in the world. If such a result is to be achieved for individual boys and girls, school and home must work unremittingly together. Between these the Association cannot be too intimate or sympathetic.

But the object of this session is not to discuss the theory of educational aims, but rather to learn from concrete examples and reports what is actually being done through this working together of home and school especially by parents' associations. There are several such associations within the sphere of influence of this conference. They have been on trial and have done some excellent work. Some of us are connected with these and we want to know what others are doing. Others of us have never seen the Association at work. It may have good possibilities for our communities. It is in the belief that reports of what is actually being done will be suggestive and interesting that we have asked representatives of some of the strongest associations of parents and teachers to tell us of their experiences and plans. The object of this session will be accomplished if we may gain a vivid idea of what can be done when home and school get together.

The discussion of Dean Butler's address is reported in part as follows:

MRS. FLOYD FRAZIER, president of the Parents' Association of the University Elementary School: To my mind, the purpose of a parents' association is threefold. It should make possible to the parent a thorough understanding of the aims and problems of

the school, it should lead to a practical co-operation between teacher and parent, and it should result in a closer companionship between child and parent. The first means much to the school, the second much to the school and the child both, and the third everything to the individual family.

The work of the Parents' Association in the Elementary School has been organized this year for the first time and along lines entirely new, I believe. There are nine grades in the school, including the kindergarten, each containing from thirty-two to sixty-five pupils. Every grade holds four Mothers' Meetings during the year, beginning in October, excepting the kindergarten and first grade, which have monthly meetings. The mothers in each grade elect a chairman and secretary the first of the year. This chairman presides at the meetings in her grade and is responsible for the Association work in that room to the Association chairman who, with the nine grade chairmen, constitute the Home and Education Committee.

On the months alternating with these grade meetings are the united grade meetings, at which all the mothers and teachers of the school come together for a social time and to hear and discuss a paper on some subject of mutual interest. The programme this year is a comprehensive one, including Mrs. John B. Sherwood, who speaks on "Art in the School and the Influence of Pictures on Children;" Dr. Frank Billings, whose subject is "The Physical Development of the Child;" Mr. Walter Taylor Field, author of *Fingerposts to Children's Reading*, who talks on "Books for Children," and Professor Otis W. Caldwell, who will read a paper on "Nature Contact for the City Child."

While we do achieve a unity and inspiration from these united meetings, it is the individual grade meeting which I consider is the very foundation of a successful parents' association, for it is here we work out our ideals and accomplish that intimate intercourse between mother, teacher, and child which is so vital to the work. And, of course, through the interest of the mother the father's sympathies are enlisted and we find both parents attending the regular evening Association meetings.

To go a bit farther into detail, these individual grade meet-

ings are held when school closes at 2:30 and the children remain for a social hour with the mothers. Entertainment is provided—such as games, stories, steropticon talks and exhibits of pictures, and light refreshments are served. The children then go home and the business meeting is held. At this time the teacher and parents discuss the problems of the room and often are addressed by some outside speaker on a subject of importance to that special group of mothers. Two subjects have been taken up in each grade alike this winter—one of the curriculum for the year, and second, social hygiene. Some of the problems which have arisen, and which the faculty and parents have worked together, have been the management of the lunch-room, supervision of the toilet rooms, regulation of the playground, and study at home. A yearly fee of fifty cents is paid by each mother toward these meetings and by an arrangement of committees every mother with her child is made responsible for one afternoon. There are four committees appointed by the chair, one for each meeting. The mothers of such a committee, with their own children, act as hostesses for that one meeting and thus every mother and child entertain every other mother and child once during the year. Although the social committee of the Association provides several delightful parties for the children during the winter, yet these small informal affairs, where everyone is well acquainted, afford a most excellent opportunity for social training. And how the children do enjoy them! No mother is allowed to forget when her turn comes to serve and there are no innocent bystanders—the mothers join in all the fun. In fact, many an unsuspecting parent has been landed in the Association by bait in the person of her own child.

That all the grades in the school might have a work in common, in which the children too could help, there has been established an Art Fund for the purpose of beautifying the interior of the building. This fund is administered by a committee composed of parents and faculty. No mother and child together need contribute more than a dollar, the child's share in the gift being generally of his own earning. At the December meetings the mothers and children in every grade made simple toys and presents for the



Visiting Nurses' Association and the John Hamline Settlement. These things were exhibited on a large tree at the Christmas exercises of the Elementary School and then dispatched with the tree to our less fortunate neighbors.

As the kindergarten and first-grade children do not remain at school for the afternoon session, it was necessary to work out a different plan for the meetings in those rooms. It was decided to give these mothers monthly meetings, with hygiene for the subject for the year. They are having addresses from the greatest specialists in the city and the topics include: The Care of the Sick Child; Children's Eyes; Children's Teeth; the Child's Diet; Nose, Ear, and Throat, and Nervous Children.

It seems, with the work well laid out, there is very little left for a parents' association chairman to do. My idea of her duties is that she should make the school as attractive to the mothers and children as possible, that there may be a more active interest; that she should bring the individual mother and individual teacher in closer touch with each other and that she should explain misunderstandings, smooth out difficulties, and generally make everything lovable and harmonious.

The phase of this work which is nearest my heart is that which concerns the children in their relations to their home. I think I am conservative when I say that not one-third of the parents know and live with their children as they should after those children have passed the third grade. Why such a condition should exist is absolutely incomprehensible to me; but that it does exist I know to be true, therefore I say that the greatest and grandest work a parents' association can do is to bring that mother and father and child into the inseparable, sympathetic, and perfect trinity which God intended they should be. I truly believe that if we companioned our children more we would have fewer "problems" and less anxiety confronting us in their rearing. This life at school is really the business life of the child. He spends over one-third his waking hours in the school environment. How can we enter fully and sympathetically into his life unless we know this environment? How can we expect to keep in touch with our children unless we share with them the com-

panionship, the work and play, the triumphs and failures, the doubts and fears of their little world? For children, like grown-ups, seek and enjoy those with whom they have experiences and interests in common. In short how dare we mothers and fathers loose the ties of babyhood and leave our children to work out their own salvation at the very time when they need us most in adjusting their relations with the world. We do "live again in our children," not only in their personalities, but in their lives, and we may keep them safe and ourselves young and happy with a blessed happiness, in thus living our lives over, if we will only be their chums and confidants.

DR. BERTHA N. HAMILTON, president of the Englewood High School Parents' Association: The Englewood High School Parents' and Teachers' Club was organized in October, 1901, under the auspices of the Congress of Mothers. We have the honor of being the first parents' association connected with any high school in Chicago. The object of the club is to co-operate with the school in the interest of the child, morally, physically, and intellectually. Through the efforts of the club an inclosed bridge walk was obtained from the Board of Education, which furnished an indoor passage between the new and old buildings. Prior to this, the children were compelled to go from one building to the other in the open air and in all kinds of weather, without wraps or head covering, thus exposing them to colds, pneumonia, etc.

The second advantage gained for the children by the club was the lunch-room, which we consider the finest in the city, and which is ably managed by the Englewood Womans' Club. Five hundred children can be accommodated during the lunch period, but even this capacity is inadequate and we are working for an addition to the present lunch-room. We have also obtained through persistent petition a splendid, much-needed addition to the school buildings, thus completing the arrangement of buildings as originally planned years ago.

In February, 1907, a new experiment in educational lines was undertaken (with permission from the Board of Education), for a period of five months. I refer to the "separate class recitation,"

or "limited segregation," as it has been called. The "separate class recitation" is confined to the freshman year, the adolescent year, and it is hoped that through this experiment a means has been found to solve the boy problem in the high school and to overcome his dislike for the present high-school work. Through the determined and persistent efforts of the Parents' Club an extension of time for results was obtained from the former Board of Education, and the present board has granted an extension indefinitely.<sup>1</sup>

We heartily indorse the action of the School Board and the principals of the high schools against fraternities and sororities and stand ready to co-operate with them in this matter. Our work this year will aim to establish some permanent social feature that will take the place of the secret societies in the school. We are also working to establish manual training and domestic science in the school and to make these courses a permanent part of the school curriculum.

I heartily agree with Mrs. Young that the ventilation in our schools is atrocious, but under the present system of heating, ventilation, etc., I do not know how it can be remedied, as I understand "the system" represents the highest ideals of engineering, heating, and ventilation. I am sure our Parents' Club will lend a willing hand to improve the existing conditions if a way can be pointed out to us.

MR. J. C. HANNA, principal of the Oak Park and River Forest Township High School, spoke of the Parents and Teachers' Association in Oak Park, and its growth in usefulness due largely to the wise counsels of men and women of influence, whose co-operation has tended to inspire general confidence.

The peculiar organization of the Association with local sections was presented, and a summary of its chief activities was made. Among these were the arrangement of social gatherings for the promotion of acquaintance and the calling forth of a

<sup>1</sup> Reasons for undertaking the experiment and a statement of results obtained are given in an article entitled "Limited Segregation," by J. E. Armstrong, principal of the Englewood High School, in the *School Review* for December, 1906, Vol. XIV, p. 726.

sense of responsibility for and an interest in active citizenship. By these means parents are led to visit and study the school and its needs, and to give support to plans for supplying such of these needs as cannot easily be supplied by the Board of Education, such, for example, as pictures, statues, reference books, pianos, stereopticons, museums, gymnasium equipment, an athletic field, a pipe organ, assistance in the way of social activities and events among the pupils.

The teachers, in the opinion of the speaker, should follow the initiative of the parents in these associations, but should respond promptly and with confident and loyal co-operation as equals, when that initiation is once taken. These associations both reflect and mold public opinion. Their most important function should be the education of the community regarding its own schools.

The speaker closed with a reference to the difficulties in the fusing of the two elements—parents and teachers—and gave as a reason for this the common and more or less well-defined notion among people that the teacher is impractical and something less than a full man or woman. This curious feeling, he opined, is an unconscious inheritance from the old time when, in the school, the teacher was hostile to the pupil and the pupil was hostile to the teacher. This attitude on the part of the pupil when he grows up and becomes a parent is changed to one of tolerant and good-natured contempt on the part of men, of condescension on the part of women.

The remedy requires time and patience and it is in the hands of the teacher. A good way to be *looked* upon as human is to *be* as human as possible.

PROFESSOR GEORGE H. MEAD, of the University, called attention to the increased recognition of the social character of our education; and pointed out that it becomes impossible to draw the line between the school and home and the community if we take this into account. The formation of parents' associations are but the natural expression of this recognition.

He illustrated the organic nature of the relation between these associations and the school from the history of the association of

the parents of children in the elementary and high schools of the School of Education, calling attention especially to the success with which the school and the parents together dealt with the fraternities and sororities in the high school, and the assistance the association could render in increasing the effectiveness of the physical culture.

## DEPARTMENTAL CONFERENCE IN MATHEMATICS<sup>1</sup>

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Conducted by  
ASSISTANT PROFESSOR H. E. SLAUGHT  
The University of Chicago

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The number in attendance at the Departmental Conference in Mathematics was about sixty, representing some forty-five schools. The discussion on the topic: "What Should Be the Scope and Purpose of First Year Work in Algebra?" was led by four representatives of widely different relations to the school system, all of whom are engaged in an active campaign for the improvement of teaching algebra and among whom there was substantial agreement on certain fundamental points as follows:

1. There is need for careful reconsideration of the scope and purpose of algebra in the first year of secondary school.
2. At present too much complicated and abstract work in algebra is introduced in the first year. While ample drill work on the processes is absolutely necessary, yet it is more important to drive home the few fundamental principles on oft-repeated simple exercises than utterly to discourage the pupil with continued complicated manipulations which require hours of his study time.
3. Theoretical and demonstrational presentation of algebra is not fitted to the age and maturity of the first-year pupil.
4. The solution of problems should form the central theme for the first year. These should be concrete, interesting, and connecting with things related to life. New processes should be introduced as they are needed in handling problems, and when so introduced should be drilled upon until they are thoroughly familiar. Concrete geometry and physics should furnish large and rich sources for problems. While neither demonstrational geometry nor experimental physics should be taught in the alge-

<sup>1</sup> Held at the Educational Conference of the Academic and High Schools in Relations with the University of Chicago, November 9, 1907.

bra of the first year, yet the simple and easily recognized facts of both these subjects are easily within the reach of the pupil's comprehension and interest.

5. All of the work of the first year should be developed out of and tied to arithmetic. The chasm between arithmetic and algebra should be broken down.

6. The foregoing points of view compel a readjustment in order of topics. Instead of crowding the first four or five months of the year with abstract and complicated manipulations in long multiplications and divisions, fractions, factoring, highest common divisor, lowest common multiple, etc., for which the pupils never find any use in applications, either here or anywhere, much of this work should be put late in the year (much indeed should be left out entirely from the high-school requirements, and included only in the later course to be elected by those preparing for college).

In this way space and time will be gained for solving problems and for helping both the pupils who may go to college, and those who will not, to see that algebra is not a mere juggling of symbols but is a practical tool for interesting, useful, and immediate service.

Superintendent C. M. Shelton of Crystal Lake, Ill., is working out a plan on these lines both in the high school and in the grades, which he describes briefly as follows:

In a very practical way, we are grappling with two fundamental problems, the isolation of the high school and the disconnected treatment of subjects.

When a pupil reaches the high school, he seems unable to make use of his grade studies in any satisfactory way, and again when he leaves high school to enter college or to go into business, he is confronted with a similar experience. This useless isolation of the high school wastes the time of the teachers and makes the progress of the pupils unsatisfactory. Most rural schools regard their grades as an end in themselves. but city schools cannot look upon the grades and high school as two distinct units unless they blindly follow an outgrown custom. We maintain a continuous system of twelve years, in which the grades reach up into the high school and the high school reaches down into the grades. Similarly, our high school is sutured into the business world and higher schools. The brevity of this paper prohibits any adequate discussion of this last correlation.



In our first six grades, the aim is not to give the pupils a certain proficiency in each subject, but to gain a working control over the tools of learning. We do not *master* a certain set of studies in the first eight years to be dropped for another set during the last four years. By developing the new studies out of the old ones, we keep the child's previous work functional and make his development natural. This gradual growth avoids that abrupt change from familiar subjects to strange ones and obliterates the old break between the grades and the high school.

The disconnected treatment of subjects that we are overcoming, is an old barrier that has grown up through the improvement of separate studies and the development of detached groups. Enthusiasts in all lines improve their subjects without sufficient regard for kindred topics and the time at the disposal of each pupil to study the four groups of subjects. Teachers take these improvements, usually in the form of textbooks, and hitch them to our present school machinery that leads farther than ever from unity and coherence. We are not trying to think in terms of separate textbooks and recitations, nor to regard the one subject that we teach worthy of our notice to the exclusion of all others. We are putting into practical operation a thoroughgoing correlation that attempts to see the entire scheme of unity of each of the four great groups—language, history, science, and mathematics. In order that the reader may see the treatment of one subject, a short account of our work in mathematics is given below.

In the first six years, sufficient arithmetic for the ordinary affairs of life is taught; in the last six years, a mathematical sense and type of thought is developed through arithmetic, geometry, algebra, and trigonometry. There is no attempt to *master* arithmetic in eight years and then to drop it for a succeeding year of algebra which in turn gives way to another in geometry. We recognize no hard-and-fast dividing lines; the differentiation of mathematics into its component parts is left to develop with the child. This work in the higher grades grows out of the pupil's present arithmetical knowledge and develops hand in hand with his advanced arithmetic. In this transition period, arithmetic is not taught one day in the week and algebra and geometry two days each. Such a treatment undoubtedly would mean failure. For instance, when a topic in geometry is taken up, it is not dropped merely to change to algebra or arithmetic. There is a definite relation between the three that determines the length any one topic is developed in its proper setting before it is interpreted into its broader mathematical sense. This seems like a rational treatment of the subject and a natural method for the child. Certainly, clearer ideas are formed and more time is given for drill and problems through the use of our present waste.

The following is a brief of the syllabus which we use:

*Grades one and two.*—Formal number work is incidental to the development of number idea.

*Grades three and four.*—Number idea incidental to formal drill in

mechanical processes. The aim in these grades is to develop the habit of using and thinking in terms of signs, symbols, mathematical language, and rapid work in the fundamental operations. Enough applied problems and experimental work is used to give a practical outlook.

*Grades five and six.*—Problems relating to the everyday affairs of life, reasonable work in fractions, ratio, percentage—profit and loss, commission, and interest, general business applications within the experience or grasp of the child, literal arithmetic and the equation are emphasized. As in other grades, teachers are to note whether a pupil is weak in the abstract and mechanical processes or in the logic and number relations. Pupils are not supposed to get out of these grades weak and lame in either of these points.

*Grades seven and eight.*—Geometry and algebra developed from and with arithmetic. Geometry, purely experimental and inventional, is used to develop the concepts of forms with their names, to *see* truths without formal proofs. Abundant use is made of exact drawings, paper cuttings and foldings, constructions, superpositions and models with sand.

The algebra begins with literal arithmetic. Addition and subtraction are taught together. Concrete interpretation of positive and negative numbers, of the two uses of the plus and minus signs, and then the gradual development of their abstract meanings. Multiplication and division are taught together. Special emphasis is given to the linear equation and to the general algebraic solution of problems by means of the unknown quantity. This is followed by the evaluation of simple functions and straight line graphs; arithmetical fractions and fractional linear equations; special methods in multiplication and factoring developed together.

The work of these two grades is *arithmetical* mathematics. Advanced arithmetic is now begun and subjects formerly presented as arithmetic are taken up in their differentiated setting. Old problems are now re-solved in accordance with the new light. The actual arithmetic is placed in the hands of the pupils who take a delight in reconquering its problems on the basis of algebra. This puts a practical meaning into algebra and makes the pupils firm believers in its merits. It helps the parents to see the value of high-school studies.

Although we do a considerable amount of practical work such as problems from trade, manufacture, and commerce in and about our town, make charts of prices, statistics from our school, and reports of observational groups, we try to keep in mind the value of skill in the manipulation of the abstract and the long apprenticeship in drill that accomplishes it.

*Grades nine and ten.*—The main axis of the work in the ninth grade is algebra and in the tenth, geometry. The work of both years recognizes the previous work done below. This algebra extends through pure and affected quadratics, and the plane geometry, correlated from time to time

with the solid, is finished. Arithmetic is again kept alive through the special theorems in each.

*Grades eleven and twelve.*—In the eleventh year, advanced algebra and solid geometry, in which is correlated the beginnings of trigonometry and analytical geometry, occupy the entire year. Those who go into business take a year of arithmetic in the light of their previous mathematical training.

In the twelfth year, physics is presented and the pupil finds an old friend in most of the formulae and equations that he meets. In other words, he is equipped with the tools necessary to progress in physics.

Mr. G. A. Harper at the New Trier Township High School, Wilmette, Ill., is enthusiastic over the problem point of view in algebra as against mere abstract manipulation. He has gathered some data on this point which he presents in brief outline as follows:

Every live student of mathematics is very much interested in the solution of problems. To be able to answer questions and solve practical problems which deal with everyday life is the normal ambition of every healthy-minded boy or girl, man or woman.

Our high schools, by crowding our courses with so many college-entrance requirements, have done much to destroy this ambition. The lists of problems which are to be solved by means of equations are often passed over so hurriedly that the interest in them is entirely lost.

It has always seemed to me that our aim should be to train our pupils to solve these practical problems rather than to put the emphasis upon the abstract principles alone. Too much time is spent in solving equations and not enough is given to the more valuable concrete illustrations. The methods of "checking," which can be made very valuable, are especially "overworked" by the majority of high-school teachers. Very few students of elementary algebra are able to check satisfactorily those problems in which the value of the unknown number is fractional. It would be much better for us to teach our pupils to use the equations in the solution of simple problems, rather than to overemphasize the abstract principles of the equation.

I have written letters to a large number of high-school teachers asking for information concerning their difficulties with these particular problems. One of the questions was, "What percentage of your pupils are able to solve one-half of the written problems without assistance?" Nearly all of the answers ranged from 25 per cent. to 40 per cent. A few were higher than that, and some were lower. One answer was as low as 5 per cent. Does this not show that there is a reason for complaining that these lists are too difficult? When two-thirds of the class are unable to make a reasonable preparation of the lesson, something must be wrong. To be sure we need a few of the difficult problems to maintain the interest of the best students,

but there should be a large number of simpler problems that the majority of the class can solve.

Other questions were, "What types of problems do you consider most practical? Are there any types of problems such as clock problems, digit problems, etc., which you consider impractical?" In answering these questions, nearly all condemned those named as being impractical for the work of the first year, although some acknowledged their usefulness in advanced work. Several expressed the opinion that the problems should deal with practical things, such as the principles of interest, taxes, measurement of areas, and the elementary facts of physics. Several were strong in their condemnation of those problems which have long since lost their interest.

May there not be a reason for the above complaints? Is it not possible that we have difficulty in getting the pupils interested in these problems because we do not talk about interesting things?

But there are many ways of making these problems interesting. The methods that are most practical depend upon the individual teacher. The plan that I have found most successful is to persuade the pupils to write some of these problems for themselves. One will be surprised at the things they will write about. The common everyday occurrences furnish them material for interesting and instructive problems, a large proportion of which will compare favorably with the lists in an ordinary text. Then again, this method is valuable, for it gives the teacher an opportunity to discover the pupils' difficulties with the English language. For these reasons, it would be well to have such work done quite frequently during the first year's work in algebra.

In concluding this discussion, I wish to say that we should emphasize very strongly the practical problems in the work of the first year of algebra. I heartily indorse the report of the Committee of the Central Association on Algebra in the Secondary Schools, but I would go farther and say that we should give the greater part of our time to those principles that are necessary for the solution of all kinds of practical problems. These principles can be made to include nearly everything that is at present required for the first year's work in the average high school.

The problems should include as much mathematical knowledge as the pupil is capable of mastering during the year. They should be simple enough for the majority of the class to solve them readily. Forty easy problems solved by ninety per cent. of the class will do more good than five miserably worded puzzles explained by the teacher.

A year's work conducted on the above plan will produce satisfactory results and will develop an interest in mathematics that will continue throughout the entire high-school course.

Mr. J. H. Dickey at the Academy of James Millikin University, Decatur, Ill., is a strong advocate of reform along the

lines mentioned above and is getting results to justify his theories. His suggestions are given in outline below:

For a long time the plan in elementary algebra has been to teach all the theory possible during the first year, depending upon the pupil to learn for himself how to make the application in the sciences which are presented later. The subject is so comprehensive it has seemed impossible to teach both the theory and its application extensively in the time at our disposal. As a consequence, the theory has received nearly all the attention, while the application to problems has been neglected, very much to the disadvantage of the pupil.

The physics teacher objects to this arrangement. He thinks our pupils too often fail to see any relation between the principles of algebra and the data obtained from a simple experiment in the laboratory; too often they do not know the first steps in transforming a simple statement from words into symbols. He thinks he has to spend too much time teaching elementary algebra when he ought to be teaching physics.

It is a matter of common observation that a treatment 90 per cent. theory and 10 per cent. application, which is found in most textbooks now in use, is one not likely to arouse enthusiasm on the part of the first-year pupil. It is not very strange that he often thinks the subject uninteresting and wonders how it is ever to be of any practical use to him. The argument that a knowledge of the principles involved is necessary for any work in the more advanced mathematics is only partially satisfactory. In the majority of cases he does not expect to continue the study of mathematics very far, so such argument does not make a very strong appeal. There are too many subjects which do make a direct appeal to his life to warrant his spending any great amount of time and energy on a subject which seems to him to be almost wholly theoretical. So, from the point of view of the pupil, it seems there might be a change in the method of presentation.

There is a growing tendency at present to subordinate the theoretical side to the applications of the subject-matter. There is a growing appreciation of the fact that algebra as an abstract science and algebra as a school science are two subjects not at all identical. A logical treatment may be sufficient for the one but not for the other. There must be not only a logical treatment but a psychological treatment as well.

In beginning the study of the violin or the piano the time given to technique the first year must be large in proportion to the amount devoted to the intricacies of musical composition. Instruction in the use of the instrument must be illustrated constantly. The pupil must practice with the instrument in his own hands. A fine theory with no practice would never make a thorough musician. As the pupil develops, harmony and the different forms of musical composition are explained to him. There is an analogy to this in first-year algebra. The development of the theoretical side of the

subject ought to be subordinated at first to the solution of concrete problems involving equations. Those parts of the theory which are attempted should be presented not as being finished products in themselves but simply as helps to the solution of equations. Every principle stated should be accompanied by a set of comparatively easy problems illustrating its application. From beginning to end the stating of equations from written problems should receive the greatest emphasis. This, it seems to me, should dominate the whole of the first year's work. After that a more formal treatment of abstract numbers may be presented to advantage.

The selection of problems is a matter of great importance. Most of them should be concrete, whereas most of them in a majority of textbooks are abstract. They should relate to things with which the pupil is acquainted and should lead very gradually from the concrete to the abstract. We may not expect very much abstract reasoning from a first-year pupil.

In a conversation, a college man who has had twenty years' successful experience teaching mathematics remarked that with each succeeding year he is inclined to demand a trifle less in requirements to enter the Freshman class. He feels that we, as a rule, are inclined to expect a little too much in the way of abstract reasoning from preparatory or high-school pupils.

The question as to where we should turn for material for problems invites discussion. It seems to me our algebras should make more use of the material which might be drawn from manual training. It has been found useful in grammar-school arithmetic and I believe it could be used as well or better in algebra. Statistics from geography, a subject with which the pupil is acquainted, furnish an abundance. Statistics of our industrial resources, simple geometrical drawings, and affairs from everyday life furnish material of high pedagogical value for algebra. Many problems which might seem uninteresting if artificial are interesting because the material in them represents real conditions and has been drawn from real sources. Some types of very elementary problems from physics might be introduced, but problems from physics which require anything more than a very slight explanation should be excluded. If introduced at all, they should be solely for the mathematical content. I do not believe in teaching physics in the algebra class.

Problems should be classified according to subject-matter; that is, problems of the same type should be placed together. A group of problems involving areas, another group involving volumes, etc., followed by miscellaneous lists, give better results than altogether miscellaneous lists. Most of the problems should be of such a nature that no complicated equations result in their solution. Very few complicated equations are necessary to solve any problem in elementary physics. There should be a few problems hard enough, however, to test the best powers of the best members of the class,

otherwise the 15 or 20 per cent. who have naturally the mathematical instinct might think the subject a trifling one.

Formulae are usually best developed from artificial problems. Their use can be learned better from a study of material taken from something with which the pupil is familiar than from data taken from physics. For example, solve for each letter in the formulae for the areas of rectangles, triangles, trapezoids; the volumes of rectangular solids, pyramids; the sides of a right triangle; problems in interest, etc. A large part of the trouble in the use of formulae can be avoided by noting from the beginning the close connection between algebra and arithmetic. Let each new principle be introduced by first studying its application to Arabic figures. Give plenty of exercise involving Arabic figures in the same way as letters. Emphasize daily the fact that the pupil is dealing with actual number expressions and number relations and not merely juggling with letters. For example, adding  $5x$  and  $10x$  is not identical with the process of adding 5 horses and 10 horses. Make it plain that algebra is generalized arithmetic. Explain all algebraic principles in some reasonable way to pupils, even if they are not able to understand and appreciate the formal abstract proofs.

Checking solutions of equations by substituting particular values for letters, if followed persistently, will accomplish excellent results in the use of formulae. By checking his solution the pupil emphasizes for himself the fact that he has been dealing with actual number expressions and relations in the equation and that the letters are only abbreviations for the numbers. Equations which are too complicated to check easily should not be used much during the first year.

If so much time is devoted to the statement of problems, some topics which are usually presented must now be omitted. For some time I have been omitting from the first year's work H. C. D. and L. C. M. by division, very complicated fractions, simultaneous equations involving more than three unknowns, complicated radicals, and imaginaries. I agree with those who suggest that we might go farther and omit complicated brackets, binomial theorem, cube root of polynomials, simultaneous quadratics except one linear and one quadratic, and theory of quadratics. I should not like to omit the theory of exponents or ratio and proportion. The theory of exponents is not hard to teach and should be taught in connection with radicals.

The introduction of graphs has added an element of interest, for they serve a very useful purpose by showing in a picture the relation between numbers, and give to the analytical solution of equations a very definite meaning. As an illustration of their use, modern texts in preparatory courses in commerce and finance are full of graphs showing curves of exports and imports of products of different kinds. The subject is one of growing importance and I think our first-year pupils should be made acquainted with it so that they may use it in their work as early as possible. It would be going a little



too far, however, to introduce a study of functions in the first year by means of graphs. They should be left until the study of analytics is taken up.

As to the order in which the topics should be presented there seems to be no hard-and-fast rule. Every new text presents the topics in an order different from the last, and yet all are developed in a logical manner. Almost any order found in the average textbook has some peculiar advantages. I would like to commend the plan in one or two of our recent texts of postponing the formal treatment of literal fractions to near the close of the first year, algebraic fractions with numerical denominators being introduced from the first. This arrangement also postpones from its usual place the topic of factoring, which should not be far removed from quadratic equations and fractions.

The plan of dividing the algebra into two separate courses to be given in the first and third years has many good arguments in its favor. The strongest one, it seems to me, is that the maturity of mind necessary for this algebraic work is not generally attained before the third year. In some high schools a term of review in algebra is given in the senior year with good results.

The Decatur High School sends a good many students to the University of Illinois. For some years the Decatur pupils were criticized on account of their poor preparation in algebra. Finally the plan of having a review of algebra in the senior year was adopted. Since then there has been no criticism.

We hope in our school to obtain as good results by another plan. During the first semester of the first year in the academy, arithmetic of somewhat advanced nature is taught. During the second semester a combination course in arithmetic, algebra, and concrete geometry is given. Almost no demonstrational work in geometry is given, but a large amount of constructional and mensurational geometry is introduced. During the second year the algebra is formally finished. During the third year considerable practice is given in the statement and solution of algebraic equations in the plane geometry class, so that by the end of that time the pupil needs no review and is well prepared to begin the work of the Freshman year. We believe this is altogether better than dividing the algebra into two separate courses.

In conclusion, let me suggest again that in our first year, instead of spending so much time on mechanical manipulations with abstract numbers, we proceed at once to the solution of equations, developing the theory as required by them. I believe this will best meet the needs of the pupil, and at the same time furnish the best possible training for him in abstract mathematics.

Supervising Principal Paul G. W. Keller of Manitowoc, Wis., is producing results in the way of added interest and

power in the study of algebra as outlined in the following paper:

That elementary algebra still fails of its highest usefulness because of a lack of a clear understanding of its purpose in the secondary school, is quite clear, and it is the object of this paper to suggest one line of presentation which it is hoped will assist in making algebra what it should be—training in logic, and the development of skill in manipulating this tool and applying its principles.

That first-year algebra should be largely a training in the mastery of fundamental principles, and skill in manipulation and recognition of type algebraic forms, none disputes. That this is the ultimate purpose in this part of the student's mathematical study, however, is too commonly the impression left with him, and often this is the idea held by the teacher, if methods of presenting the subject and exceedingly mechanical results are any criteria. Our plan is to take up briefly the different subjects of algebra dwelling especially upon those portions which have points of contact in geometry. Algebra and geometry are tools which, in the advanced sciences at least, we expect the student to have mastered for the purpose of use aside from the other values of these subjects.

Briefly stated our plan in elementary algebra is as follows:

1. Review the fundamental processes and principles of arithmetic and show how these were used and applied in problems in order that the student may see the relation of processes and principles to their application and their purpose in a field which is familiar to him.
2. Concentrate the attention on the processes and principles by introducing the literal symbol in place of the Arabic symbol, and teach the number system including the negative number. Express simple problem relations in this way. This brings into high relief the processes and principles of arithmetic.
3. Introduce the equation as the algebraic sentence, the tool to be used in all subsequent mathematics to facilitate expression of logical thought. Much of the work during the year will be to gain skill in mastering the processes which are needed to manipulate, not juggle with, this powerful instrument. To aid in fixing the idea of the equation the balance can be used effectively. With the balance, the axioms as applied to positive and negative numbers can be readily illustrated and in this connection it should be clearly borne in mind that we cannot treat negative numbers at all until we have found their equivalents in the simple number system. This thought when brought home to the student will save him plenty of worry over the negative number and its meaning and use.
4. Using these fundamental axioms, the student is to apply them in the solution and simplification of the equation, constantly referring to them as authority for his steps. He will thus acquire the habit of demanding of him-

self rigor in manipulation. As for drill work, instead of using only the usual hit-or-miss forms, we should introduce among others, such forms as will be met later in geometry and physics. That these are formulas the full meaning of which will be learned later, does not in the least detract from their present usefulness for the algebra. In fact, it stimulates curiosity to know how these formulas can be derived from such subjects as geometry, physics, and chemistry.

5. The introduction of more complicated forms in equations leads the pupil to see the need of skill in performing the fundamental operations, using the literal symbols instead of the Arabic figures as in arithmetic. Suitable problems should be chosen to illustrate these new processes as used in equations. These can be gathered from a large field of correlated material, practical arithmetic of business and trades, physics, chemistry, geography, geometry, etc.

6. After the equation has been mastered to this point, a new way of expressing the equation relation is presented, namely the method of the graph, which is soon found to express more completely than does the equation or any other algebraic form, certain important relationships; for example, the graph of the direct and the indirect proportions, as illustrated for instance by Hook's law of the spring balance and Boyle's law of gases. It is well actually to perform these experiments and to formulate the results in the following four ways for the sake, not of the physical relationship, but of the *logical treatment of the facts*; namely, (1) state the facts in words; (2) form an equation developed out of the facts; (3) interpret this equation as a proportion or in the form of a law of variation; (4) graph the law in the form of a picture displaying to the eye the whole range of facts investigated.

The above methods of presentation are so fundamentally important that we can hardly omit them in any treatment of algebra which has as its aim the utility side of the subject.

7. Next in order should come the study of simultaneous equations, and finally general factoring, quadratic equations, and roots. The geometric conceptions aid here greatly in fixing the ideas pertaining to quadratics and roots. Expressing relationships by means of the graph is applicable in many ways where no other method could give an equally complete and comprehensive idea of the conditions. The following are some of the points of contact and application:

In physiology: food-value curve; diet and work curve; localization of skin-sensation curve; alcohol curve of nutrition and intoxication; graphic representation of muscular contraction.

In chemistry: the atomic-weight curve; Boyle's Law curve; Law of Charles curve.

In physical geography: temperature curves for day and month; atmospheric-pressure curves; humidity curves; saturation curves.

In physics: Hook's Law; pressure in free liquid related to height; Boyle's Law; relation between space and time in accelerated motion; the curve of a projectile shot horizontally; vapor-saturation curve; curve representing strength of a magnet as it varies from pole to center, and from center to pole in the opposite direction; law of inverse square in sound or light or force.

In closing let me state briefly a few points which we try to emphasize in our work: (1) that the equation is the core in elementary algebra; that its study is for the purpose of making it a tool in expressing logic simply and rigorously; (2) that there are two other fundamental forms of expressing an equality relation, the proportion and the graph; (3) that in handling equations to solve problems, the student must guard against writing an untruth, by keeping the units in which the elements are expressed consistent; (4) that each step in the manipulation is directly based on the fundamental axioms; (5) that every problem can be handled by one of the following; (a) the equation or a set of simultaneous equations, (b) the simple proportion, (c) the compound proportion; (6) that the secret of solving a problem lies (a) in finding what elements are wanted, (b) in discovering the relations of the given elements to those wanted, (c) in knowing that there must be found as many relationships involving the known and unknown elements as there are elements wanted.

## THE STUDY OF THE SYSTEMATIC VOCABULARY<sup>1</sup>

G. A. FRITSCHÉ

South Division High School, Chicago

The most important as well as the most difficult problem in the study of a modern foreign language is the acquisition of a vocabulary sufficient to enable the student to express himself adequately in the medium of the new tongue. The various advocates of the reform advise, that the conversational exercises and the connected discourse be based upon the reading material. As is usually the case, however, the reading-text consists of selections of literary German, in itself often inadequate to furnish the necessary material for conversation of value to the student in everyday life. The student of language has a right to demand that such material of practical worth be offered him, that he may quickly and surely be brought to that point where he can readily understand and speak the language he is studying. One of the most obvious deficiencies of our modern-language teaching is the lack of accomplishment in speaking the language. The purpose of this paper is to show the necessity and the possibility of building up a systematic, connected vocabulary, which will furnish the means necessary for the power of expression, so that at the conclusion of his course the student may feel the satisfaction of having at his disposal a sufficient supply of the foreign language substance, with the aid of which he may be able to express himself as occasion demands; that is, a supply of the current concrete expressions of daily life. In fact the more concrete formation of the aims of language-study has brought about a demand for a systematic, well-defined study of words, phraseology, and idioms. The reading-text itself offers ample opportunity to impress and enlarge the vocabulary by reference

<sup>1</sup>The following five papers were read at the German Conference, held in connection with the Twentieth Educational Conference of the Academies and High Schools in Relations with the University of Chicago, November 9, 1907, on the general topic: "The Acquisition of a Vocabulary in a Modern Language."

to the cognates, synonyms, and derivatives, but it does not furnish adequate material for constructing a systematic vocabulary. The purpose of such a vocabulary is to supplement the work of the text, to teach such words and expressions that do not occur in literary German, that is, to effect a practical mastery of the language. A much-felt want will in this way be supplied, for a student realizes, frequently to his regret, that there is a vast difference between the literary language and the language of daily intercourse. Only the person who can speak a foreign tongue thoroughly understands it. It is hoped that the acquisition of such a vocabulary will also aid materially in carrying the student into the foreign spirit, will lead to a more intimate acquaintance of the *Realien*, one of the highest aims of language-study. Modern languages are not studied in our schools mainly for the sake of their form, not even exclusively for the beauty and the value of their literature, but in teaching modern languages we also aim at teaching in the broadest outline and as far as possible the principal features of the institutions, life, character, and thought of the great foreign nations.

Among the first publicly to call attention to the systematic treatment of the vocabulary was François Gouin in his book, *L'art d'enseigner et d'étudier les langues*, published in Paris in 1880. There were others, notably among them Dr. Karl Ploetz of Berlin, but none was as unique in the treatment of the subject as Gouin. According to his theory the cause of the difficulty in acquiring a language lies in the fact that we have failed to follow the greatest teacher, nature. Nature manifests its method in the case of the child. The child combines occurrence (*Vorgang*) and sound (*Laut*) in an inseparable mental association with each other. The process is simple at first, then gradually becomes more complex. The ear is the organ most actively engaged in learning a language. The child learns to understand and speak through hearing many years before he reads or writes. Gouin says that the child after having perceived various objects reproduces them in speech by recalling them to his mind's eye, a process of conception. This mental visualization forms the basis of Gouin's theory. The child

does not begin with declensions, conjugations, rules, lists of roots, and vocables. On the contrary he pictures to his mind what he has previously seen, experienced, and thought. His words then are the expression of either the outer or inner perception. In short, the student is to think in the foreign tongue without the aid of the mother tongue. Gouin criticizes the current methods, because they associate the printed or written word of the foreign language with that of the mother tongue. Furthermore he argues that in the employment of the object picture the mind is receptive; not active, merely passive. While in the acquisition of a mental image the mind is actively engaged, the student must think, and in this way the direct association of the object presented with the foreign word referring to it is accomplished, that is, the student is at once led to think in the foreign tongue. Direct visualization by means of the so-called *Anschauungsbilder* is therefore necessarily limited in its scope. It presents only a single stage of the action, while mental visualization can present everything—a complete picture. We think and understand essentially in images and sentences, and while expressing our thoughts a complete mental picture is ever present before our minds. Everyone, even the poorer student, possesses imaginative power. The mental picture must be presented without the aid of the mother tongue. Every normal person possesses the gift of language in his mother tongue; it can therefore come to him in another. In order to have a practical mastery of a language we must primarily know it thoroughly with reference to vocabulary and grammar. The former is of the greater consequence for our immediate consideration. Let us see how Gouin proposes to teach vocabulary.

We do not think in individual words, but in complete sentences. For example, when thinking of an apple, we also think of the partaking of it. A complete mental picture lies at the bottom of every speech-sound. The verb is therefore the fundamental element of every sentence. It in turn leads to the substantives. The whole current vocabulary of a language is to be taught in complete, short, idiomatic sentences, with particular emphasis upon the verb. The formation of these sentences is to



take place according to a logically chronological sequence. For example, the sentence, "Der Jäger schieszt ein Rebhuhn," is to be thus presented:

Der Hund *sucht*.  
Er *sucht* und *sucht*.  
Er *wittert* eine Kette Rebhühner.  
Er *tut* eine Kette Rebhühner *auf*.  
Er *steht*.  
Er *geht* auf Befehl des Jägers *vor*.

Die Rebhühner *bemerken* (*sehen*) den Hund.  
Sie *fürchten sich* vor dem Hunde.  
Sie *fliegen auf*.  
Sie *fliegen* von dannen.

Der Jäger *sieht* die Kette Hühner *davon fliegen*.  
Er *ergreift* sein Gewehr.  
Er *legt an*.  
Er *zielt* und *zielt*.  
Er *drückt ab*.  
Der Schusz *geht los*.  
Die Ladung *trifft* ein Huhn.  
Das Huhn *fällt* zur Erde.

Each sentence presents a little story, a small image complete in itself. According to Gouin each sentence must be simple and as short as possible. The verb should never have more than two complements. Secondly the exercise should not exceed a certain number of sentences (18-30). He found that the students were very attentive up to the twenty-fourth, but showed signs of restlessness after the twenty-five. If the exercise contained less than 18, it was found that the extent was not commensurate with their powers. As to the sources from which the vocabulary should be drawn, he argues that because of the general deficiency in the use of the everyday language, it should be drawn from this source. He then sets up a systematic treatment of vocabulary as follows: The vocabulary of a modern foreign language consists of about 30,000 words, one-third of which are either technical, obsolete, or purely literary terms, not in common use by the person of average culture. He claims that 6,000 of the remaining 20,000 will suffice for

regular use and serve as a basis of the ordinary intercourse in language. He then divides the words into groups as follows:

1. *Objective*—those terms which deal with the manifestations of the external world, the *non ego*, e. g., *Haus, Tisch, Stuhl, Strasse, Schmiede*.

2. *Subjective*—those terms which deal with the *ego*, the internal world, as manifested in our feelings, opinions, and considerations concerning the objects of the external world, e. g., *hoffen, fürchten, Arger, Schmerz, denken, meinen, glauben*. The objective group is in turn divided into smaller groups (series). The words, *Schmied, Eisen, Hammer, schmieden, glühen*, belong to the series: *der Schmied*. The words, *Jäger, Gewehr, schiessen, jagen, Jagdhund, Rebhuhn, Hase, Hirsch, zielen, treffen*, belong to the series: *der Jäger*. And thus additional groups are formed until the entire content of the objective element of the language is arranged in a natural systematic order. Some words will of course be found in several series, but the most will occupy their proper place in a single series. These smaller groups or special series are in turn grouped under general series. In this manner Gouin classifies the entire objective element of the language under five general series.

1. Generalserie, das Hauswesen, mit den Spezialserien: Ortsbewegung, Kleidung, Wasser, Feuer, Ernährung, Heizung; die gewöhnlichen Arbeiten im Haushalt; Hühnerhof, Stall, Gemüsegarten.

2. Generalserie, die Gesellschaft, mit den Spezialserien: Stellung und Tätigkeiten des Menschen in der Gesellschaft, verschiedene Phasen des Lebens; Schule, Kirche, Kriegsdienst, Spiele, Feste; Krankheiten.

3. Generalserie, in der freien Natur, mit den Spezialserien: Schäfer, Jäger, Fischer, Schnitter, Pflüger, Müller, Bäcker; Wiesen, Obstgarten, Weinberg, Garten, Wald; Gewerbe, die mit dem Ackerbau verknüpft sind.

4. Generalserie, das Handwerk, mit den Spezialserien: Schneider, Schuster, Hutmacher und andere Handwerke und Industrien, die sich auf die Kleidung beziehen; Tischler, Bauschreiner, Schlosser, Maurer und andere auf das Bauhandwerk bezügliche Gewerbe und Industrien.

5. Generalserie, die Wissenschaft, mit den Spezialserien. Elemente und Natur Kräfte; Mineralien; Pflanzen; Tiere; Raubtiere, Säugetiere, Haustiere, Nagetiere; Landvögel; Wasservögel; Fische; Amphibien; Reptilien; Insekten; u. s. w.

The special series previously referred to are then con-

structed into logical arrangements of sentences called themes, which form the working basis of the system; e. g., as above, "der Jäger schieszt ein Rebhuhn."

Inasmuch as man observes the various objects, actions, etc., in the external world, then thinks about them, etc., the transition from the objective to the subjective is direct, and in the same way series and themes are constructed for the subjective element of the language. For example, *glauben* implies *Gewissheit*, *Zweifel*, *Hoffnung*, etc., all manifestations of the inner world, i. e., the subjective side of the language. A combination of the objective and subjective by emphasizing the prevailing image or concept then yields the figurative or metaphorical language, in which a large part of our expression takes place; e. g., "ein Laster ausrotten," "in ein Laster verfallen," "in Laster versinken," etc. But the student must know the objective language before he can appreciate the figurative. After the various series have thus been mastered, the study of literary selections can be taken up. Every piece of literature consists of a series of conceptions, which the author has arranged according to his own logical conceptions. The transcription must, however, conform strictly to the expressions and constructions of the author. Reading and writing are then employed to put the finish to the entire work only after the subject-matter has been thoroughly acquired through the medium of the spoken language.

The above method of acquiring a complete current vocabulary would seem to solve the problem effectively, but unfortunately Gouin, after working out his unique theory and himself successfully applying it in practice, failed ever to publish the complete material. Only a few of the early series had been published at the date of his untimely death, and the vast store of valuable material continues to remain inaccessible. It remains for us to work out the necessary means from the other available sources. Among other publications<sup>1</sup> R. Krons's *German Daily Life*, published by Newson & Co., 18 East Seventeenth St., New

<sup>1</sup> Keetels, *A Collegiate Course in the French Language*, New York: Clark & Maynard, 1880; Menckebach, *Deutscher Anschauungsunterricht für Ameri-*

York, and Dr. Gustav Krüger's *Systematic English-German Vocabulary*, Dresden and Leipzig (1893), C. A. Koch's *Verlagsbuchhandlung*, are especially commendable both for their systematic arrangement and their completeness. Everything pertaining to human life is presented with a rare fulness. They both contain an unusual abundance of current idiomatic expressions for everyday use. Because of their completeness and detail they can hardly be used as textbooks in class, but as a basis for work for the teacher as well as for reference they ought to prove invaluable.

As previously stated, the plan is to build up a systematic vocabulary supplementary to that of the text. The teacher is to work out his series and themes along the lines laid down above, from whatever sources he can procure and present them to the students for entry into notebooks especially provided for that purpose. The material thus acquired is then to be used in conversation (*Erzählungen*) and at times in composition (*Aufsatz*). Great care should be exercised however to present only such material as is relevant, i. e., such as lies within the range of comprehension of the students. In schools that have only a two years' course, this work might be taken up in the latter half of the second year. In schools having three and four years' courses, the later years might be devoted to it. Two years would probably be sufficient to cover the ground, or at least the greater part of it. Time and circumstances would of course determine the stress to be laid upon this work. Frequent reviews are necessary; for that is the greatest assistance toward retaining a vocabulary. Systematic vocabulary thus becomes an excellent means for review and supplement. Furthermore transition to comments on "Land und Leute" is close at hand and composition (*Aufsatz*) logically follows.

From the previous remarks it will be seen that the acquisition of a speaking vocabulary is a prime consideration. The

*kaner*, New York: Henry Holt & Co.; Schmitz, *Deutsch-französische Phraseologie und Vocabulaire Systématique*, Berlin, 1888; Dr. Karl Plötz, *Voyage à Paris*, Berlin: Verlag von F. A. Herbig, 1889; Plötz, *Vocabulaire Systématique*, Berlin: Verlag von F. A. Herbig, 1887.

more the student is held to hearing, understanding, speaking the foreign tongue, and the less he hears his mother tongue, the more opportunity and time does he secure to exercise his powers in the new language with its many idiomatic terms, and thus to acquire the same so much more firmly and enduringly. The acquired vocabulary will be rich and full, and the logical result of this training of the observing and reproductive faculties will be the skill of expression in the idiomatic conversational German. We at once recognize familiarity with a language by a persons' use of idioms. On the other hand, the person who does not know the idioms fails to understand the life of the language. It is hardly necessary to state that a study of isolated vocables is at best incomplete, dull, and unprofitable. In offering a vocabulary in a living connection, we must recognize the most valuable means for its acquisition, for in that manner the real grasp of the meaning, the feeling of the thought-content is a more vital one. It brings about the proper texture in language connection, and a living connection is by all means the most valuable. We need not necessarily follow Gouin's method in every detail; still we can take cognizance of the fundamental principles and with proper adaptations embody them into our language-instruction.

"Prüfe alles; das Beste behalte!"

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## THE STUDY OF COGNATES AS AN AID IN THE ACQUISITION OF A VOCABULARY

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ASSISTANT PROFESSOR PAUL O. KERN  
The University of Chicago

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Our subject naturally divides itself into two parts, the study of related words, as to their change of form and as to their change of meaning. Attention has been paid to the first named in two articles published in the *School Review*.<sup>1</sup> In speaking, therefore, of the external changes that cognates have undergone in English and German, we will limit ourselves to an

<sup>1</sup> Vol. X, pp. 60-68; Vol. XIII, pp. 315-23.

enumeration of consonant-equations. No attempt will be made to present the scientific aspect of questions involved. We also admit that further exceptions to some of these equations may be found, but in the majority of cases they will hold good and prove of material aid.

#### SONOROUS CONSONANTS

English liquids and nasals=German liquids and nasals: lent=*Lenz*; rain=*Regen*; fetter=*Fessel*; man=*Mann*; name=*Name*; seldom=*selten*. Eng. *mb*=Ger. *mm*: timber=*Zimmer*.

#### THE SEMIVOWELS *w* AND *j*

1. Eng. *w*=Ger. *w*: warm=*warm*; Eng. *wr*=Ger. *r*: write=*reiszen*; Eng. *wh*=Ger. *w*: white=*weisz*.

2. Eng. consonant *y* (unless developed from original *b*)=Ger. *j*: year=*Jahr*; Eng. *j* in words of Romance origin=Ger. *j*: jacket=*Jacke*.

#### STOPS AND SPIRANTS

##### *Labials*

Initial Eng. *b*=Ger. *b*: book=*Buch*; medial Ger. *b*=Eng. *v*: *Rabe*=raven; final Ger. *b*=Eng. *f*, *ff*: *Kalb*=calf, *ab*=of, off. The reverse of the last-named equation is not invariably correct. If final Eng. *f* or *ff* goes back to original *f*, its German correspondence remains *f*: wolf=*Wolf*; stiff=*steif*.

2. Initial Eng. *p* and Eng. *p* after *m*=Ger. *pf*: pan=*Pfanne*, rump=*Rumpf*. Eng. *p* occurring after vowels and liquids=Ger. *f* (if preceded by a long vowel), *ff* (if preceded by a short one): gripe=*greifen*; ship=*Schiff*; help=*helfen*; harp=*Harfe*. The few exceptions to this rule, e. g., hop=*hoppen*, are to be explained by the occurrence of double consonants in the older words. Exception: *P* does not shift after *s*: spring=*springen*.

3. Eng. *f* (rarely written *v*)=Ger. *f* or *v*: find=*finden*; vixen=*Füchsin*; full=*voll*; oven=*Ofen*; twelve=*zwölf*; hoof=*Huf*.

## Dentals

1. Eng. *d*=Ger. *t*: day=*Tag*; deaden=*töten*; word=*Wort*. Exception: After *n*, Eng. *d* corresponds to Ger. *d*, sometimes also after *l*: wind=*winden*; gold=*Gold*.

2. Initial Eng. *t*=Ger. *z*: toll=*Zoll*. Eng. *t* after *n* and after liquids=Ger. *z*: mint=*Münze*; malt=*Malz*; heart=*Herz*. Eng. *t* after vowels=Ger. *ss*, *sz*, *s*: water=*Wasser*; hate=*hasen*, *Hasz*; what=*was*. Exceptions to the last-quoted equation, such as sit=*sitzen*, are again due to earlier gemination; compare Anglo-Saxon *sittan* and Dutch *zitten*. Exception: *T* is not shifted (*a*) after a spirant: often=*oft*; stone=*Stein*; mast=*Mast*; night=*Nacht*; (*b*) in the combination *tr*: tread=*treten*; titter=*zittern*.

3. Eng. *s*=Ger. *s*: so=*so*; rose=*Rose*; us=*uns*; miss=*missen*. Exception: Eng. *sl*, *sm*, *sn*, *sw*=Ger. *schl*, *schm*, *schn*, *schw*: slim=*schlimm*; small=*schmal*; snout=*Schnauze*; swing=*schwingen*.

4. Eng. *th*=Ger. *d*: thorn=*Dorn*; leather=*Leder*; oath=*Eid*.

## PALATALS AND GUTTURALS

1. Initial Eng. *g*=Ger. *g*: good=*gut*. Sometimes *y* appears in Eng.: yellow=*gelb*. Initial Eng. *gn*=Ger. *n*: gnaw=*nagen*. Medial and final Ger. *g*=Eng. *i*, *y*, *w*=forming a diphthong with the preceding vowel: Hagel=*hail*; sagen=*say*; mag=*may*; Fliege=*fly*; Vogel=*fowl*; Bug=*bow*. Eng. *dge*=Ger. *cke*: midge=*Mücke*.

2. Initial Ger. *k*=Eng. *k*, *c*, or *ch*: kühn=*keen*; kommen=*come*; Kinn=*chin*. Eng. *kn*=Ger. *kn*: knight=*Knecht*. Eng. *qu*=Ger. *qu* or *k*: quicksilver=*Quecksilber*; quiver=*Köcher*. If old *k* appears in medial or final position, it may remain in Ger. and Eng., or may change to *ch*, *ck*, in Eng. also to *tch*: yoke=*Joch*; starch=*Stärke*; lark=*Lerche*; bake=*backen*; stitch=*sticken*. As, viewed from the modern idiom, no rule can be given as to when any one of these will appear, this correspondence is of small practical value. Eng. *x*=Ger. *chs*: wax=*Wachs*. Eng. *sh*=Ger. *sch*: bush=*Busch*.



3. Initial Eng. *h*=Ger. *h*: hard=*hart*. Eng. *ght*=Ger. *cht*: light=*Licht*.

A list of equations starting with the German cognate and usable for school purposes may be found in the introduction to Dr. Oscar Weineck's *Third German Reader*, F. W. Christern, New York.<sup>2</sup>

### THE STUDY OF THE VOCABULARY IN MODERN LANGUAGE TEACHING AS OUTLINED BY THE REFORMERS<sup>1</sup>

GERTRUDE E. KRAUSE  
West High School, Cleveland, Ohio

To facilitate the learning of a modern foreign language the pupil should acquire by various means a permanent vocabulary. The more the pupil is compelled to hear, understand, talk, and reproduce in writing the foreign language, the greater is his opportunity for practice in the use of the language and the more surely he will absorb the foreign idiom. Apart from the vocabulary, which the pupils will gradually acquire in a somewhat haphazard way from the reading of foreign authors, the teacher should from the beginning aim at adding systematically to the stock of words learned by his class. It ought to be a cardinal principle in language teaching that new words be learned after and not before the pupil has met them, either in his reading or in conversation.

With beginners and young children it is well to discuss small groups of words which are connected either by their sense or form. After these words have been explained, they are to be learned by the class. These groups of words may be taken

<sup>2</sup> To illustrate the change of meaning in cognate words, a résumé of the following two books was given: Dr. Albert Waag, *Bedeutungsentwicklung unsres Wortschatzes*. Lahr in B., 1901; Michael Bréal, *Essai de sémantique* (Science des significations), Paris, Librairie Hachette et Cie., 1897.

<sup>1</sup> Bibliography: (1) Karl Breul, *The Teaching of Modern Foreign Languages and the Training of Teachers*, 3d ed., Cambridge: University Press, 1906; (2) M. Walter, *Englisch nach dem Frankfurter Reformplan*, Marburg, 1900.

from such subjects as the ordinary incidents of everyday school life, like getting up, going to the blackboard, opening books, etc., or the technical terms of questions and answers. The teacher will first form short sentences to show the use of these words, or with small children have recourse to pictures composed for the purpose; series of words dealing with home life, for example, father, mother, sister, brother, house, garden, room, furniture, and the like; words dealing with out-of-door life, tree, brush, oak, fir, etc., together with verbs, to plant, to grow, and others. It would be well if the teacher and class would make up dialogues or stories of these words and phrases. The stories should be told the children several times in the foreign language. Then the class should repeat them, write them from dictation, and learn them by heart. Irregular verbs should be avoided as much as possible at first. Additional subjects for this sort of treatment are: a walk in the country; a birthday party at home; a visit of our uncle from Paris or Berlin. Numerals, pronouns, forms of address, chief foreign weights and measures and money form natural groups to be worked into well-devised sentences. Foreign coins might be shown the class when these are studied.

After a passage has been read the new words may be taught the pupil by means of questions and answers, by repeating the text in a changed form, or by repetition in the form of a résumé. Any one of these ways has the advantage of aiding the learner's memory through association of ideas. The pupil should now be able to repeat the new words and use them in sentences.

When a new word is used in the classroom it should be repeated a number of times before it is written on the blackboard. Whenever this is possible, illustrate the word by a picture. The pupil should now use the new word in describing the picture and should form original sentences using the word. The picture may now be described in written form on the blackboard. In thus calling the attention of the pupil in the classroom to new words and expressions met with in conversation and oral work in general he will become trained to look out for

them himself when he goes into a foreign country. "Where did we meet that word?" "What new words and expressions have we learned?" By being asked these questions frequently the pupil will be helped to remember that which he reads and hears.

Explain the various meanings of a word if it has more than one meaning, and by illustration show how it can be used otherwise than in the text. Do not teach *to strike*, but *to strike a blow*, not *to shut*, but *to shut the door*. Combine verbs with the proper preposition, *to be at home*, *to come from home*.

Always connect the new with the old as much as possible. When the pupils are sufficiently advanced, let them cite expressions already learned which mean the same as the new one.

After a story has been learned it will be found profitable to let the pupils group the words under certain heads or topics, which will of course vary with the kind of reading-material. Examples of topics which might be used are: Dress; meals; seasons; the city; the village; the country; war; peace; etc. Another classification might be: Things produced by nature; things produced by art; their separate parts and number; material of which things consist; qualities of things; size, shape, color, activity.

With older pupils words may be grouped according to their similarity in the various languages known to them. This will not only increase their vocabulary, but also their interest in the language. Or, again, the study of ordinary words which are connected by their form is advisable. For example, to sit, to set; a sitting, a setting; to set before, to offset. The difficulty here is to know where to stop, but if the lesson is carefully prepared by the teacher words of little practical importance will be avoided. Word formation, Breul says, is as yet too much neglected in school teaching.

Pupils in the second and third year of German would not find it too hard to put into the form of an essay at home the material for which the vocabulary had been collected and prepared in class. Or, after a passage has been read and discussed in class, assign it as a review and let the class state their own observations on it, in written form in the foreign language. As

the classes become more advanced they should learn something of the shifting of sounds, and should study synonyms and etymology.

Etymological comparison, however, is recommended only for advanced students and skilful, well-informed teachers. Words like *Knabe*, knave; *haben*, have; *sterben*, starve; *über*, over; *geben*, give, might be chosen. Like the German word *essen*, OHG *ezzan*, English "to eat," Anglo-Saxon *etan*, common words may be traced through their various stages of development.

In closing it is important to note that Walter makes a strong plea for much oral work, *repetition*, and the free use of the blackboard, and greatly condemns translation.

By these various methods the student will gradually and systematically learn and make his own all the most important words of the foreign language and none but these. As his vocabulary increases his *Sprachgefühl* will grow and his interest in a language which is being made truly alive and practicable for him as a vehicle of expression will not diminish.

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## THE STUDY OF SYNONYMS AS AN AID IN THE ACQUISITION OF A VOCABULARY

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EDITH FURNAS

Friends' University, Wichita, Kan.

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A short history of the publications on the subject of synonyms is given by Otto Lyon in his introduction to Eberhard's *Dictionary of Synonyms*, Leipzig: Th. Grieben. In substance he says: The real founder of German synonyms is Samuel Ernst Stosch, who was the first to give not only a mere table of words but also explanations and distinctions of meaning. He, however, modeled his work, *Investigations of the Right Use of German Words Similar in Meaning*, after Abbé Girard's synonyms which appeared in Paris in 1718. Stosch's careful but too extensive work is based upon an error, which caused many mistakes and contradictions. He assumes that synonyms

are words identical in meaning. In this error, he follows the example of Girard. Even today the French regard them as words absolutely identical. The *dictionary* of the Academy defines a synonym as a word which has the same meaning as another word. The revision of the works on synonyms which the German Society of Mannheim made put aside this erroneous definition and defined them as words *related* in meaning. This society published in 1794 their work known as *Sinnverwandte Wörter*, and revisions of the same followed. All these works however are inferior to Eberhard's *Dictionary of Synonyms*, published in 1802. In closing this preface Lyon adds that formerly a treatise on the worth and significance of synonyms was added to these dictionaries. This, he says, is no longer necessary today, since it seems to be universally recognized at present that a more than superficial knowledge of synonyms assists greatly the power of expressing oneself clearly, easily, and forcibly in any language. Anyone who has ever attempted the mastery of a foreign language can fully appreciate the truth of this statement. We may be able to purchase the necessities, or obtain enough food to sustain life without synonyms, but as soon as we attempt to enter into anything worthy of the name conversation, we meet with serious difficulties. Like the artist who uses the varied colors and many shades to produce the ideal effect, so we must be equipped with a store of words, similar and yet distinct in meaning, to produce the word picture of our thought.

In his *Deutscher Styl*, Lyon gives more specific reasons for the study of synonyms.

In the expression of ideas one must be careful that the thought may not become confused through the use of words of more than one meaning, or through the use of words related in meaning. As to the former, the meaning will usually be clear from the context, but the right use of synonyms like *Stolz* and *Hochmut*, *Bescheidenheit* and *Demut* demands more attention. Because the ideas are related, the words are easily exchanged, and often a thought is expressed which one did not intend. Clearness and conciseness as well as beauty of style demand a careful observation of the fine distinctions of synonyms, which teach us to express and distinguish related ideas by specific words. Whoever fails to distinguish between words like *beschimpfen*,

*demütigen*, *entehren*, *herabsetzen*, and *erniedrigen*, will continually use these expressions unfittingly and destroy the clearness and beauty of style.

No conscientious student can fail to see the self-evident truth of these assertions as to the value of this study.

The reform method favors defining the foreign word in the foreign language, and giving the English meaning only in extreme cases. The synonyms are also explained and the distinctions made clear in the foreign tongue. Then the student is asked to form sentences containing the new words learned and illustrating their distinctions in meaning. By the time these distinctions have been worked out, the words are indelibly stamped on the mind, without any conscious exertion of the memory, which is certainly a much more interesting method than to commit columns of promiscuous words. It may seem at first a somewhat slow and tedious process, but practical application proves it to be a very rapid as well as satisfactory way. Take for example the two words, *Demut* and *Bescheidenheit*. Whoever fears to overestimate his own worth shows *Demut*, but he who limits himself in his claims, though they are well-grounded, *Bescheidenheit*. This certainly brings a more definite and hence a more lasting impression to our minds, than if we merely define *Demut* as humility and *Bescheidenheit*, modesty. Or again *entehren*, *erniedrigen*, *herabwürdigen*, *demütigen*, *beschimpfen*, and *herabsetzen*. *Erniedrigen* is the most general, and means a diminishing of the outer or inner value of a person. If the value is merely an outward one, for instance, that through which one receives his position in society, the decreasing of it is a *herabsetzen* (lower). *Herabwürdigen* (degrade) refers to the inner value of a person or thing. *Demütigen* (humiliate) adds to the idea of the sufferer's own judgment of his shortcomings. One *beschimpft* that one from whom one takes the signs of honor and to whom one causes others to refuse the signs of honor. *Entehren* is the highest degree of *Erniedrigung*. There are so many words of whose meaning we have only a confused or vague idea and which we never use. When we have once analyzed these carefully and compared them with other words, we feel the right of ownership, and

actually make them our own. We may know *about* a city but not until we have visited its shops and parks and compared it with other cities can we speak of it with a personal interest. With a beginner of course, care would have to be used in the selection of synonyms; only the most simple and striking examples should be chosen, but advanced pupils, with a moderate vocabulary, could easily use a text like Eberhard-Lyon.

A very material aid to the reform method would be the publication of dictionaries, which defined the words in the foreign language, but in simple enough terms to be understood by a beginner. The teacher may be able to remedy the lack by making new, or simplifying, definitions, yet it seems an arduous and unnecessary task. Suppose we take a simple German story and work through it, defining all new words in German and learning their synonyms. We may at first read but half a page a day, yet when we have finished, our vocabulary is many times richer than if we had read it in the usual way. It would be folly to assume that there is no mental effort required in this method, but the large element of interest saves it from being drudgery. The study of synonyms involves also a rigorous mental discipline, and forces one to think in the foreign language, the much-desired goal of every language student. As another by-product might be mentioned a cultivation of feeling for the language. A native imbibes naturally a certain feeling for distinctions in words, but a foreigner must use all the stilts available in order to cultivate this feeling, so that here again we find the study of synonyms invaluable.

Considering the question from both sides, I am thoroughly convinced that this is the right line of procedure for the modern language teacher, if we hope to realize our ideals. The splendid results already obtained are the only recommendation necessary for the method, which is the best, because it is the most natural.



THE STUDY OF DERIVATIVES AND COMPOSITES  
AS AN AID IN THE ACQUISITION OF A VOCABULARY

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F. W. SCHACHTWendell Phillips High School, Chicago

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Of the different methods of acquiring a vocabulary, which are treated in these papers, that making use of derivatives and composites offers perhaps the most extensive field, and at the same time avoids the charge that it is a translation method, which can be made against the study of cognates and synonyms. Just as in the study of cognates it is necessary to understand the simpler principles which underlie their formation, so in the study of derivatives, the methods and rules should be fairly well understood.

The importance of derivatives in the study of languages has been variously treated. The layman's idea is probably based on Mark Twain's assertion that—

with a vocabulary consisting of the words *Zug*, *Schlag*, and *also*, one can get along very well in Germany. In the dictionary there are three columns of compounds with the second alone, beginning with *Schlagader*, which means artery, and going clear through the alphabet to *Schlagwasser*, which means bilgewater. But that thing which it does not mean has not yet been discovered.

This indicates in an exaggerated way what has been aptly called "the pictorial quality" of the German language, and to what an extent and with what facility this language lends itself to composition; still I am inclined to think that the genial Mark Twain has not overstated the matter very much. After being asked to discuss this subject, I made it a point to check up one of these words, namely, *ziehen*, limiting the compounds, first, to those in which some form of the word was the first component, and second, to those in which the composition was with one of the inseparable prefixes, or the three commonly given groups of prepositions. Of the first sort there were 90, of the second 171, or a total of 261, and the search was not at all thorough. If now nouns and verbs and other parts of speech had also been

taken, I feel certain the number would have exceeded 400, perhaps 500. Not all words may form compounds so freely, but possibly there are others from which even more may be formed.

Approaching the same question from a different standpoint, five texts in common use were taken and the vocabularies were searched for examples. In each case the words were chosen haphazard, and the results averaged as follows: *Immensee*, 10 words, an average of 4.9 derivatives to each word; *Höher als die Kirche*, 10 words, average 8.2; *Das kalte Herz*, 70 words, average 4; *Glück auf*, 50 words, average 7.2; *Der zerbrochene Krug*, 30 words, average 7.6. The last results were obtained by a class of fifteen third-year pupils, who were given a few examples, as *schreiben*, *Schrift*, *schriftlich*, *Vorschrift*, and asked to take two words each. Only one word was found without any derivative. Occasionally they were led into error, as when, for instance, they derived *Finger* from *fangen*, an error, however, which eminent philologists seem also to have made.

Another test was on the ability of the student to form derivatives from his own vocabulary. The problem selected was to form feminine abstracts from adjectives, as *kalt*, *die Kälte*. In no case were there less than eight found and in several cases almost twice that number.

But the purpose of studying derivatives and composites, I take it, is not so much to enable the pupil to form them for himself, as to aid him in recognizing them when found in the text. As already stated in the beginning, some of the underlying principles should be understood, and for this purpose the roots or primitive parts of the language, and some of the methods of compounding and varying these, may briefly be given.

There are two general methods, which may be termed "external" and "internal." Derivatives formed by the first method are comparatively, but only comparatively, rare, most of them falling into the second class.

#### INTERNAL CHANGES

These may be grouped under two heads (the third, reduplication, having practically been lost): 1, *Ablaut*; 2, Change of

root consonant. Under *Ablaut*, again, may be considered a number of cases, some of which, however, are covered in part by consonant changes or composition. These subheads, with illustrations under each, are:

1. Formation of diminutives, requiring the *Umlaut*, as: *Knabe, Knäblein; Haus, Häuschen*.

2. Abstract substantives, formed also by the *Umlaut*, as: *gut, Güte; warm, Wärme*.

3. Feminine sex names ending in *-in*, as: *Wolf, Wölfin; Bauer, Bäuerin*.

4. Nouns ending in *er*, formed from verbs, as: *tragen Träger, backen, Bäcker*.

5. Derivative adjectives, ending in *-ig, -isch, -icht, -lich*, etc., as: *Gunst, günstig; Tor, tönicht, etc.*

6. Inflectional forms as formed in

a) Declension of nouns, as: *Vater, väterlich*.

b) Comparison of adjectives, as: *alt, älter, ällich*.

c) Conjugation of strong verbs, as: *helfen, hilfst, Hilfe*.

7. The collective idea expressed by the prefix *ge-*, as: *Busch, Gebüsch; wachsen, Gewächs*.

Examples under each of these might be multiplied indefinitely, but it must not be forgotten that many derivatives will not fall into any of these groups.

#### CHANGE OF CONSONANTS

These may be of two sorts, either change in value, or change in position.

Change of position is illustrated by the forms, *Brunnen, Bronn, Born*.

A change of value is usually accompanied by a change of meaning, as in: *Rabe, Rappe, beissen, beizen*.

#### COMPOSITION

As already stated, this is the most fruitful source of derivatives, but there is actually less variety about it. There are two sorts, real and unreal. In real composition the first component is inflected as: *Landmann, Himmelbett*. In the unreal the first component is inflected as *Landsmann, Herrenhaus*.

This topic, if gone into in detail, would fill volumes, and only a few cases can be treated here. Taking the verb *sehen* as an example and using the inseparable prefixes, adverbs, and prepositions only, we have, to give merely a partial list: *ansehen*, (verb and noun), *Ansicht*, *aussehen* (verb and noun), *Aussicht*, *aufsehen* (verb and noun), *Aufsicht*, *besehen*, *durchsehen*, *Durchsicht*, *durchsichtig*, *gesehen*, *Gesicht*, *Angesicht*, *hinsehen*, *Hinsicht*, *hinsichtlich*, *einsehen*, *Einsicht*, *nachsehen*, *Nachsicht*, *übersehen*, *Uebersicht*, *vorsehen*, *Vorsicht*, *vorsichtig*, *versehen*, *Versehen*, *unversehens*, *Wiedersehen*, etc.

The meanings of the prefixes and suffixes, in so far as they have any meaning at present, may be studied to some advantage. The noun suffix *-ei*, for instance, has two quite general meanings, first: a business or the place of business, as illustrated in: *Bäckerei*, *Druckerei*, *Fischerei*, *Gerberei*, etc.; second, an action long continued, perhaps to the point of monotony, as *Schreiberei*, *Schmeichelei*, etc.

I should like to mention two further aids, although these are open to the objection that they are translation methods. The first is to call attention to the similarity of some of the compounds in German and English, as for instance: *zorn-ig* = ang(e)r-y; *un-glücklich* = un-lucky; *männ-lich* = manly; *kind-isch* = child-ish; *Vor-sicht* = fore-sight.

The second is to emphasize the equivalence of Latin and German composites, and as examples of such a few must suffice, as: *Aus-druck* = ex-pression; *Vor-sicht* = pro-vidence; *über-setzen* = trans-late; *unter-schreiben* = sub-scribe; *Für-sprecher* = ad-vocate.

Illustrations of the last two points could be indefinitely multiplied, but to no purpose. The point is, it seems to me, that in the hands of a teacher who can restrain his own enthusiasm for the subject, and can make the acquisition of a vocabulary by all these methods a means to an end, the plan discussed might prove a blessing to pupils who have in the past learned their vocabularies, as Mark Twain played the violin, "by ear and main strength."

## THE DIRECT METHOD IN THE FRENCH SECONDARY SCHOOL <sup>1</sup>

HENRI C. E. DAVID  
The University of Chicago

In connection with the following article on the teaching of French in the University High School, it will be interesting to many teachers to know of the results given by the direct method as applied in the secondary schools of France and of the difficulties that are confronting the authorities in its application.

This is a short account of an article published in *La revue universitaire* (August 9, 1907) and called: "L'Enseignement des langues vivantes dans l'enseignement secondaire en 1905." As it is the report of an official, and as its conclusions were considered significant by the editors of *La revue universitaire*, the whole deserves consideration.

The reality of the progress made in the teaching of modern languages since the introduction of the direct method is unanimously recognized. Some of the tangible effects of the method are: that many students exchange letters with foreign correspondents, read papers, reviews, and books published in England and in Germany, visit those countries, and even complete their knowledge by a stay of several months in hospitable families. Thus the interest of the student has been aroused and the practical benefit of the method is certain. Moreover, the examination papers for the baccalaureate degree are of a higher grade than those of the past.

However, the results would be still better if the French schools did not have to suffer from certain evils. As these evils may also be found in the American schools where the direct method might be used, it will be of interest to the French teachers in this country to know about them.

<sup>1</sup> Read before the French Conference, held in connection with the Twentieth Educational Conference of the Academies and High Schools in Relations with the University of Chicago, November 8, 1907.

1. *Lack of homogeneity in the students of the same class*, arising from the fact that students thrown together for the first time in the second or third year where the direct method is used have not been started according to this method, or if so, by teachers who did not know how to use it with equal efficiency. These outsiders delay the progress of their more fortunate classmates.

2. *Fatigue of the teacher*.—The very use of the direct method, together with the lack of homogeneity among the students, increases the fatigue of the teacher. Every teacher who has tried the method as well as everybody that has attended the recitation, either as a student or as a visitor, is aware of this fact. There is fatigue for the teacher because a greater expense of energy purely physical is a conspicuous feature of the direct method, and also because the number of the students intrusted to one person is greater than it should be. The largest number of students allowed in a class by the French regulations is from twenty to twenty-five—a number which is certainly excessive—fifteen are enough—but this rule is violated in most *lycées* and colleges. Now too great a number of students overtaxes the teacher, discourages him, and then works against the method. In the district of Caen, for instance, this fatigue has been even found extreme.

3. *Shortcomings due to a wrong interpretation of the programmes and of the instructions given by the authorities*.—Several teachers and supervisors have not yet rightly interpreted the direct method.

a) *Teaching of the grammar*.—Many have still the impression that the direct method leaves aside the grammatical teaching or uses it as little as possible. Now the programme of 1902 urges the point that *so far from being neglected, grammar must be taught very systematically*. Some teachers have thought that since with the older method too much emphasis had been put on the grammatical side of the teaching, in using the direct method the practical teaching of the vocabulary should be the main thing and grammar should be learned somewhat unconsciously. The instructions issued by the authorities remind the

teachers that they must insist on a knowledge of the structure of the language and never neglect the written exercises which alone can give precision and permanency to the acquired portion of the language.

b) *Lack of literary culture in the higher classes.*—As the direct method aims at a more practical knowledge of the language, it follows that the students have less time to be acquainted with the literature, the history, and the geography of the country whose language they are learning. It seems that this is a general deficiency. However, it must not be imputed to the direct method, but rather to another false understanding of it on the part of the teachers. Too many of them have the idea that the students must be, above all, able to speak on matters familiar to a commercial traveler. There are other more profitable subjects of conversation in the classroom than eating and shopping.

As the conditions in our American schools and colleges are entirely different from those in the French schools, it will be of little use to mention the remedies proposed in France for these evils. It belongs to each country to find adequate means to suppress them.

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## THE TEACHING OF FRENCH IN THE UNIVERSITY HIGH SCHOOL<sup>1</sup>

FRANCES R. ANGUS

The University High School, The University of Chicago

The University High School is an experiment station where the teachers are permitted—rather I should say, encouraged—to seek in their practice the best possible way of giving their particular subject to the student. We in the French department think that we are working out what has already proved, and will increasingly prove to be a successful method.

We believe that the successful teaching of a modern language means giving the student a working knowledge from the

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<sup>1</sup> Read before the French Conference, held in connection with the Twentieth Educational Conference of the Academies and High Schools in Relations with the University of Chicago, November 8, 1907.



beginning, that is, that his knowledge and his speaking ability are coextensive to a great extent.

It means, secondly, that what he is taught in any one year will be a satisfactory basis for further work either in this country or in France, and that implies accuracy in knowledge.

Our desired goal is, then, the accurate use of the language in proportion to knowledge of vocabulary and construction. The story of our advance thitherward is in the following lines:

The acquirement of the language is considered from two points of view—vocabulary and the use of vocabulary, which must go hand in hand. Accidence and syntax will be but servitors in the process. He who knows the last word on grammar is not necessarily able to speak the language, but he who speaks it accurately knows how to use the rules of grammar, he is their master. Grammar is with us therefore only a means to an end, and is never taught apart but incidentally as need arises for expression and understanding. It must be borne in mind, however, that the vocabulary is administered in such a way that by the end of the first year the elements of grammar have been covered *en passant*, the student having discovered most of them for himself—as is planned. In order to speak the language from the beginning the student and the teacher must humble themselves to talk about the objects of the room, weather, time, etc., and on these stepping-stones of simple ideas they will slowly and systematically rise to higher themes.

I have said that the student uses the language. I mean by that that he speaks it, writes it, and understands it when spoken or printed—always within the limits of the course. This practical mastery of the language is necessary, we think, for the best appreciation of the literature and spirit of the French; we know that it is necessary for what the average student wants—a speaking knowledge and the power to understand spoken and written French.

As I indicated above, the teacher must adapt his vocabulary to the knowledge of the class; he must increase and vary it in proportion to the needs of the class, from week to week, month to month until in the third and fourth years he may give

himself a free hand; bearing in mind, however, even then the student's vocabulary, and explaining new words and phrases. Upon the carrying out of this work of logical and inevitable development depends much of the success of the method. If the teacher be too slow in increasing the vocabulary and ideas, the student becomes discouraged because he is not sufficiently stimulated; if on the other hand the teacher rushes ahead too rapidly, the student becomes confused and there results inaccurate understanding, which is of all things most to be dreaded.

And now I proceed to the first day of the first year. I ask the student what he hopes to get out of the work. Invariably it is the practical knowledge, so that he may speak, write, understand lectures and conversation, enjoy plays and works, get about in France.

I then explain to him how he may accomplish his desires, I will tell him that his intelligent co-operation is necessary for the success of the scheme—a truism of course, but I apply it to what I call the *visualizing process*, viz., the attaching of the word directly to the object, idea, or action, whether the word be learned in that way or through the English medium. This process becomes soon a habit. Here, be it noted, when possible the direct method (not via the English) should be used, as it is both economical in point of time, and keeps one in the spirit of the language. Also, I continue, when alone, the student is to review mentally his knowledge. As he walks along the street he will say to himself: This is a tree; it has branches; I see a man, etc., according to his vocabulary. A little later he will be able to hold silent conversation between himself and an imaginary person, pronouncing mentally the words. And all of this he must do aloud at home. This is his part of the work, both in the first and second year—his way to study. As he carries out this work, so will his progress be. He will get his material in the classroom. He must so reiterate it that he gains fluency—fluency with the background of accuracy. He must observe carefully *at first*; the first impression is the one that stays.

That the student should understand, remember, and apply

the above is very important. I have him repeat these ideas and we hark back to them again and again.

Then we attack the pronunciation problem. We gather together the vowel sounds, nasals, and diphthongs, using phonetics only to help get at the production of the sound. I have the student write out words on the board—mere sounds to him. On the second day we begin the acquirement of the vocabulary, words and then sentences from the beginning. All future progress depends upon the start. If the student gets these elements inaccurately, the rest is, both for student and teacher, mere tilting at windmills.

The student receives a printed page containing the matter of the lesson, first gone over by the teacher, and he places over against it the collateral notes of the day. There are twenty of these lesson sheets, and they imply about six weeks' work—more or less according to the average ability of the class. I may add that until this year the teacher has written everything on the board and the student has copied it.

At the end of the six weeks the student will have learned in the way stated above, to speak, to write, to understand by ear or eye the amount of French that has for ground-work the following: The present tense (in all forms) of the regular and of 30 irregular verbs; the reflexive verb; the articles; the adjectives, possessive, demonstrative; adjectives of number, of color, of dimensions, etc; the ordinary inflexions of adjectives; the partitive; prepositions of place, with countries; adverbs of quantity; negations; personal pronouns (including all but *soi*); interrogative pronouns; the relative in part; ordinary inflexions for the plural; use of accents; *liaison*; syllabification. And this has been gained in connection with the suitable sentences—questions and statements necessary for talking about: objects of room, rooms of house, body, clothes, countries (a few), the student's work, the classification of things (grammatical), family, state, time, weather, money, ordinary actions of daily life, the programme of the day ("I waken at 6 o'clock; I rise, wash, breakfast, etc.").

We then take up, together for variety, *Easy French* by Snow

and Lebon and *Lectures Faciles* by Jules Lazare. The former contains stories with questionnaires and English exercises based thereupon, and with these begins our prose composition. In addition I give them also the translation of simple, everyday English sentences. Narration, too, begins at this point, for the student must give written and oral résumés, first in detail and then more general, of the stories read.

Lazare's book contains object-lessons, useful from the conversational point of view more especially, and anecdotes, good for narration. From both sections the student will learn by heart.

With these texts the rest of the "grammar" has been secured: as to the verb, first the future, then the past indefinite, the imperfect, etc. The subjunctive mood is taken up about half-way through the third term. The same thirty or so irregular verbs are followed through their various deviations. The text for the grammar, a summing up simply, is put into the hands of the student toward the end of the second term. We use Lawless' *Elements*. During the second and third term I relate to the student little incidents or stories, apart from their text, and these they reproduce: this is the beginning of preparation for the understanding of discourse.

Now, this is first-year work and it covers the required work for college entrance; in addition our student will have gained a familiarity with the spoken language (within the limitations of subject and construction as set forth above). To some students in the first year (those who desire and are equal to it) I give outside reading during the third term. This they report upon to me orally and in writing.

I hope that I have made it clearly understood that the conversational work is systematized and not haphazard, and that the pupils write and have practice in writing it.

The work of the second year is of the same general character. The student will widen his vocabulary, will need therefore the same steady drill, will complete incidentally the elements of grammar, will study a little poetry. There is more advanced prose composition, a systematic gathering up of idiomatic expres-

sions, the student forms his own book of the subjunctive from texts, there is systematized conversation of a wider scope, writing out of imaginary dialogues, simple letters, translations of English apart from text, based on conversation, and conversation between two members of the class while we listen to note and criticize. This last sounds very artificial but works out quite well. For texts we use just now: *Cle'd'or* or *Sans familles, tour du monde*, half of which we do in class. The other half is done at home by the student and reported upon orally and in writing, once a week. This is the real beginning of outside reading, which varies in amount according to ability and desire of the student. During the second and third terms we take up *Trois contes* (Daudet), *Contes et nouvelles* (Lazare), plays of Labiche, *Douze contes* (Fontane), *Lyrics* (Canfield, Bowen, or *Les cent meilleurs poèmes lyriques de la langue française*). For prose composition we use *Intermediate French* (Jaques); for grammar (Lawless, Bruce, Fraser, Squair, for reference). The books for outside reading vary with the student and class.

As to the conversational French, I have at different times used Kohn, Newson's version, and a regular conversation book of Garpey or Sauer, any one of which will be of benefit to the intelligent student who will really grind at it. But what I most count on is the daily drill.

I should perhaps state here that one of my colleagues, Miss Parcot, who is this year away on leave of absence, does not agree with the other members of the department with regard to translation. In her classes therefore she takes it up only with students she is preparing for college, and with them as extra work toward the end of the year. She believes in the method which contemns any word of English in the classroom.

The third year continues the study of the language as a language to be used, and begins literature as literature. The course on the nineteenth century is so given that the student may gain as a result of his efforts some appreciation of the French spirit, its expression in literature and life. As we read a book we speak of the author, of his ideas; we note where the viewpoint is essentially French, or at least different from ours; we

speak of their customs; express our opinions, student and teacher, of the text; I read to them criticisms (Lemaître, France, Fagnet) of our writer, especially when my opinion is contrary to the critic's. We read of the achievements (art, literature, and science) of the French, and thus get rid of the prevailing idea that the French are wholly given over to frivolity and rioting. We try to appreciate recent efforts toward better living; we learn to be lenient with faults that are not ours as a nation, remembering that we have our own, and in so coming to understand, even in part, another civilization the student will gain in imagination, in reason, in taste; he will have a kindlier, more intelligent spirit: which things, added to the inevitable gain during the first part of work, of simplicity of spirit, perserverance, respect for thoroughness, i. e., the truth, form a total much to be desired.

And now to take up briefly some questions arising from this statement.

1. *Translation* from English to French I believe to be a good thing for accuracy, for fluency, and for convenience in actual practice. Translation from French to English I indulge in only as a test of the student's knowledge from two points of view: Does he understand the meaning and construction of the individual word? Does he understand the meaning and sense of the passage? I intend that he shall understand exactly what he reads, not only the general drift.

2. *As to the classics*, they come in the fourth year, although I should not object to reading two or three plays in the third year.

3. *The question of home-work* has been already indicated. In first-year work especially it must be done aloud, and the keynote is *repetition*. I tell the student that I will give as short a lesson as need be, but that he must drill, grind at it over and over again. With text-work he must first understand thoroughly (a dictionary is of course necessary), then forget the English and keep the idea in French. In the second year, now, after four weeks' work, I am giving about a page a day on an

average, and in connection, reproduction, prose composition, questionnaires, verb drill, etc.

4. I have said that *French is the language of the classroom*. It is, but we do not hesitate to use English to explain a word or difficult idea, the subjunctive, the use of the pasts, for example. Then when the idea is grasped, we turn it into French.

5. *The number in the class*.—For the learning of a language the fewer the better: but fifteen is very fair; twenty is not so good. *I have worked* with a class of 40, which did as good work as my smaller ones, but it is too hard work for the teacher.

6. As yet I have said nothing about the slow pupil, and he is a very important factor in the work. The *slow student* (not the defective), the one who needs two years' work where his fellow needs one, will fail in the ordinary class. He will get the so-much-to-be-condemned smattering, the inaccurate knowledge. This student should not be so sacrificed. As soon as the teacher finds out his ability, he should be transferred to a class where there is a possibility of his doing good work if the matter be administered to him slowly. I urge, therefore, the fair treatment by the schools of this class of students. In our school there is a certain leeway—but not as yet enough.

7. Now, in closing, a word about the different methods. During ten years' teaching here and in Montreal, I have tried various ones: the translation and grammar methods, that one in which all English is repudiated, various combinations, and now the one which I have tried to set forth today and which I say unhesitatingly has given much the best results. I will add, however, that the expenditure of nervous vitality is much greater when teaching in this way. And this is inevitable, I think. Excessive clearness of enunciation, so that the student may hear exactly, the keenest listening to control the student's pronunciation, the close watching of his expression in order to give the explanation at the right moment, the bearing in mind the particular vocabulary of the particular class at the particular moment, the never-ending repetition, and the encouragement



absolutely necessary for the student's progress—all these, are, I say, life-depleting to a greater extent than is realized. For this reason, I would urge upon the schools that the teacher of a modern language be especially cared for with regard to number of hours' work and number of students in class. He cannot otherwise do good work.

## PLANT PHYSIOLOGY IN SECONDARY SCHOOLS<sup>1</sup>

WILLIAM CROCKER  
The University of Chicago

The subject—"Plant Physiology in Secondary Schools"—should not imply that this phase of botany is to be presented as an isolated subject in these schools, but rather that plant structures are always to be studied in the light of the functions they perform. No one, probably, has realized better than Lloyd the nature of the botany course that should be presented in this grade of school. He emphasizes the presentation of every phase of the science, and would always make structures significant by viewing them in the light of their functions and adaptations. I would not attempt to improve upon his recommendations for such a course, but I do wish to emphasize one point in this matter of botany teaching.

There is no subject that has more interesting human bearings than has botany when presented from the physiological side, and this should be brought out when teaching it. Emerson has said, "In the leaf progress begins." In studying photosynthesis the child should be made to see the fundamental nature of the process as did Emerson. There is hardly a phase of the subject that does not have a vital bearing upon the fundamental process of food production. Let us notice two illustrations: In a well-rounded, elementary course cross-fertilization is of course presented. The Department of Agriculture has recently demonstrated that it can increase the yield of apples by as high as 60 per cent. by alternating varieties of trees that mature their pollen at the same time, and thereby securing cross-fertilization between different varieties.

Excretion of the roots of plants is a subject studied in ele-

<sup>1</sup> Abstract of paper read before the Annual Conference of Botany and Zoölogy held in connection with the Twentieth Educational Conference of the Academic and High Schools in Relations with the University of Chicago, November 9, 1907.

mentary courses. The Department of Agriculture has found that the running out of soil is not due to the plants using up all the available phosphates and nitrates but to excreted products of the root system, which act as toxins to the growing plants.

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## BIOLOGY IN THE SECONDARY SCHOOLS OF THE CENTRAL STATES

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OSCAR RIDDLE

Department of Zoölogy and Experimental Therapeutics, The University of Chicago

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Secondary education is in a chaotic and unsatisfactory condition. The present curriculum is of mediaeval origin, and fitted more nearly to the needs and possibilities of the education of the leisure classes of the Middle Ages than to the requirements of the productive individual of the present day.

A new course of study which shall freely recognize the life-interests and activities of the modern citizen, and which shall take the results of scientific discovery of the past one hundred years into large account is demanded.

This radical change in our educational programme is of extreme importance from many points of view; it can be brought about only through a stiff fight with established customs, prejudice, and self-interests. The science teachers of our secondary schools are, for several reasons, the ones who must make this fight.

## EDITORIAL NOTES

### APPOINTIVE OR ELECTIVE BOARDS OF EDUCATION

In the "Notes and News" of our September number reference was made to the removal by Mayor Busse of certain members of the Chicago Board of Education. The members who were then removed made an application for *quo warranto* proceedings to determine the validity of the mayor's act. The state's attorney declined to institute the necessary proceedings and the matter was taken to the courts by a petition for an order for a mandamus to compel the state's attorney to bring the suit. The Illinois Supreme Court has handed down a decision ordering the suit to be brought, and at the same time ruling that the mayor acted unlawfully in removing the members of the Board of Education. Two of the prominent newspapers of the city, the *Tribune* and the *News*, which were actively hostile to the old board have taken the position that, inasmuch as the law at present does not authorize the mayor to remove members of the board, a new statute should be adopted which will authorize such action. It may be added that the proposed charter for the city which was drafted last year, but defeated when submitted to a popular vote for ratification, provided for an appointive board with power of removal.

It is of course a matter of slight interest to most readers of the REVIEW whether the mayor of Chicago acted lawfully or unlawfully, or even whether

Chicago's mayor should in the future be given power of removal as well as of appointment. But this particular incident and the proposal for new legislation raises two questions of general interest to all connected with city schools. The first is the more specific question, "Where there is an appointive system, should the mayor be granted power of removal?" The second, and larger, question is, "What is the best method for the selection of boards of education—appointment by the mayor or some other body, or election? Believing that the opinions of those who have had experience in the management of public schools in large cities ought to furnish valuable material for a judgment on this point, the REVIEW addressed letters to superintendents of several of the largest cities in the country, and although the time has been very short it is evident from the replies received that there is almost unanimity of opinion upon the second point. Several have expressed themselves in a somewhat conditional fashion upon the first.

No one of those who have answered this question favors the absolute power of removal by the mayor at his own discretion. Some say the mayor should have power to remove upon charges and after a hearing. One suggests that the city council might have the power of removal. (In the Chicago case the members of the board were removed first and the charges made later.) A man of wide experience

as superintendent and student of education writes: "To give the mayor of a city the power to appoint a board of education is to give a man, who usually has only a general knowledge of the problems of popular education, a great deal of power to shape the policy of the schools; to add to this power, also, the power to remove such board is to place him in a position of practically dictating such policy, even against the better judgment of persons whom he has appointed. While in some cases such removal would, no doubt, be an advantage, on the whole I believe that it would be prejudicial to the best interests of the schools." An active superintendent writes: "It seems to me that the privilege of removing members of the board of education by the mayor should be only for cause of a very flagrant kind. I could conceive of conditions arising which would make it desirable to have a mode of disposing of individual members of a board of education, but these ought to cover delinquencies of a very well-defined type." The superintendent of one of the largest cities of the country in giving as his opinion that the members should not be subject to removal says that the reasons are so obvious as to require no discussion. "If such removals are permissible the board will become the tool of the mayor: in other words, it would result in a one-man power." Another writes: "If the mayor is given authority to remove members at will the school department becomes merely the tail of the political kite. The schools are for the children, not for the politicians, and as long as the people remember this they will not rob the school officials of the authority and security of tenure which they must have to carry on their work." This last statement contains of course the fundamental principle at issue. If a republican mayor can remove a democratic board then a democratic mayor will in all probability return the compliment by removing the republican board. If a "business-man's mayor" removes a board of "reformers," then a "reformer's mayor" will remove a board of "business-men." The plan of removal, even with the most public-spirited of mayors, advised by the most infallible newspapers or the most disinterested politicians, tends to make the board of education a subordinate part of the city government.

Should boards of education be appointed or elected? On this the replies are almost unanimous. One superintendent prefers an appointive board without further qualification. Three state that in their judgment the question depends somewhat upon the local conditions, upon the size of the city, and somewhat upon its history and traditions. One of these, however, prefers on the whole an elective board, and one speaks approvingly of an appointment by the board of judges. Seven express themselves in favor of an elective board, specifying in most cases that the election should be at large and not by wards. Some of the reasons specified may be quoted: "Appointment by the mayor makes the board part of a political machine, with all its evils; elections by the people are not free from evils, but it is

ELECTION  
VERSUS  
APPOINTMENT

less difficult to appeal to the voter than to the machine." "While good school boards have been appointed by mayors, yet I feel that in the long run more capable members of school boards will be brought into service by the elective than by the appointive system. If we could always have conscientious, able mayors the situation would be different; but too often the mayor is likely to be a politician who will have an ax to grind in the appointment of the board of education." "It does not seem wise, in filling public offices, to have one depend too much upon another, and to make a system of administration like a house of cards where the displacement of one means the downfall of all the rest. Cities may happen at times to have a poor mayor, and in that case—rare as it may be—all appointments depending upon him will be affected." "The best school systems in the United States are entirely free from dependence upon the other departments of the city government, and this independence of school work is indispensable to the proper success of the school undertaking."

These last two quotations suggest the fundamental question which the people of the country will gradually come to face. It is raised very definitely in the recent book of W. E. Chancellor, *A Theory of Motives, Ideals, and Values in Education*, in the chapter on the subordination of the school. Should an educational system be treated as a subordinate part of the corporate government of the city, subject to the mayor and council, or should it be independent? The difficulty with the elective plan is undoubtedly that nominations for a board of education may be made by a "machine," and hence that there will be less sense of public responsibility actually involved in their selection than is secured by the appointment plan. But on the other hand, where boards are elective, especially if the board is small in numbers and the choice is made at an election held distinct from the election of partisan officials, there is a chance of making a definite issue as to the qualifications of the men. An educational question can thus be brought before the people. It cannot be brought, or at least it is usually impossible for it to be brought, for decision under the appointive system. The mayor is not elected because of his knowledge of education or because of any views he entertains upon educational matters. Even if he is not elected because of his popularity with the "boys" or his power to control the primaries, he is likely to be elected upon some question which appeals to the voters as much more important than that of the education of their children: street-car transportation, taxation for corporate purposes, the saloon question, the effect of an election upon the state or national politics, will be the dominant factor or a partial factor. Whether or not any of us will see the day when school systems shall be wholly managed and controlled by teachers or other persons who have some knowledge of educational questions, as Superintendent Chancellor urges, it seems altogether probable that the path of progress will lie toward increasing independence of the school system.

J. H. T.

## BOOK REVIEWS

*A Short History of Rome.* By FRANK FROST ABBOTT. Chicago: Scott, Foresman & Co., 1907. Pp. 304. \$1.00.

*Handbook for the Study of Roman History.* By FRANK FROST ABBOTT. Chicago: Scott, Foresman & Co. Pp. 47. \$0.25.

For his *Short History of Rome* and the ancillary *Handbook* Professor Frank Frost Abbott deserves the thanks of all teachers whose happy lot it is to introduce youthful minds to this pivotal period of European history. It was to be expected that the author of *Roman Political Institutions* would give us a scholarly textbook for the present field; but he has given us one that is thoroughly practical as well. To the fruit of his own scholarship and experience he has added the results of suggestions and criticisms from several teachers either actually engaged in secondary instruction or closely in touch therewith. The net outcome is most satisfactory, and we can commend the volumes almost without reserve.

Of the *History* the terminus is the reign of Charlemagne. The treatment is simple, logical, and, where possible, concrete. Vividness is promoted by frequent quotations from classical sources, which are invariably felicitous and free from the appearance of having been dragged in by the heels. The constitutional sections are exceptionally good, with all technicalities simplified as far as is practicable. Throughout there is manifest an excellent sense of perspective; and the essential is never sacrificed to the picturesque: the prosaic Vespasian, for instance, is made as prominent as the theatrical Nero. The many maps and plans fulfil definite aims of usefulness; while the other illustrations are pertinent and not too numerous. There is a carefully arranged chronological list of important events. The bibliography is admirably free from "loading." In the serviceable index, which we have found wrong only in one of the several instances chosen, the pronunciation of proper names is clearly indicated, a feature of real helpfulness. The material book ought to correspond more closely to the valuable contents.

The little *Handbook* is intended for the teacher. It contains a list of the sources; helps to the study of each chapter; specimen summaries, e. g., "Territorial Development;" and a more extended bibliography than is given in the *History*.

We shall best serve *The School Review* and its readers by using our brief space to indicate respectfully a few lines of criticism instead of giving any further description or indulging in any further deserved praise. The first feature we regret is that Professor Abbott did not allow himself to give a few more of the legends, such as those associated with Scaevola, Regulus, or Virginia. Of course we remember that our author is counting on the teacher; but even so we think he might have stolen space for some of these stirring myths. The purpose of history is to learn the truth and teach it; but the spirit of Roman national devotion is historical truth in the highest sense. And it is tremendously useful in our own training for citizenship: man's noble memories remain one of the best inspirations for man's noble life and hopes. Again, when our author is



treating of the resistance to Pyrrhus, after mentioning the fire and eloquence of Appius Claudius, he adds: "but probably the appearance in the harbor of Ostia of a Carthaginian fleet offering aid had more effect than even the speech of Appius." Is not this a case where pragmatism has made our author untrue to the Roman spirit? Surely the city that warred so unfaintingly against Hannibal after Cannae and Lake Trasimene did not depend on an alien fleet for stimulus to action against the brilliant Epirot adventurer. Later, when we come to the Roman conquest of Britain we miss an adequate treatment. Perhaps, under the old conception of the Roman evacuation of Britain such brevity of discussion might have been justified; but since the work of Professor Bury the advocates of "the clean sweep" theory of the abandonment have been pretty badly harried, and we do not fancy that Professor Abbott belongs to the number. And, not belonging to them, he should have vouchsafed the topic a little more space. The same desire for brevity doubtless explains, but in our humble opinion does not justify, the paragraph, in the introductory chapter, on "The Significance of Roman History." Here also the teacher may be relied upon; but the student might well have before his eyes a less inadequate account of the impossibility of understanding European development or modern civilization without a knowledge of Roman history. As to details a wise editor precludes serious discussion. With reference to most of them we should have to utter only praise; but here and there our author has sacrificed clarity to conciseness. For instance, he speaks of the arch in such a way as to leave the student in danger of inferring that it was primarily a Greek product. It is perfectly true that the Romans borrowed the arch, but it would be better to say they adopted it; and it became their child by virtue of their treatment. Historically it is a Roman influence, not a Greek one. As to the *Handbook* we may merely note that our author might have given us a little more of his reliable judgment about the works enumerated under "Sources."

Professor Abbott writes as he reasons, clearly and conclusively. There is no attempt to write "attractively" save as clearness and directness, with occasional vividness, are always attractive. If we frankly plead guilty to being hypercritical, we may admit that one or two sentences seemed to jar a little. These, however, are negligible minutiae.

In conclusion may we say that for the period on which we presume to judge, that is down to 476 A.D., we believe the *Short History* to be the best manual for secondary schools at present available? As to the sequent parts we could speak only as a general reader; but the probabilities are that the high level of execution is maintained to the end.

UNIVERSITY OF COLORADO

F. B. R. HELLEMS

*First-Year Mathematics for Secondary Schools.* By GEORGE WILLIAM MYERS and colleagues of the University High School, College of Education of the University of Chicago. Chicago: The University of Chicago Press, 1907. Pp. xv+181. \$1.00 net; postpaid \$1.09.

This book embodies the results of an experiment on organizing the mathematical subject-matter of the secondary school into a coherent course of study, articulating more thoroughly with the pupil's experience than the present system. In their preface the authors state these weaknesses very clearly, and frankly put

forward this book as an attempt to overcome the weaknesses pointed out. The book is declared to be regarded "merely as a *stage of study* of the problem of unifying mathematics in the secondary school." Under these circumstances the reviewer is permitted not only to enumerate the subjects treated and to comment upon good points but to question rather sharply whether the purpose of the authors has been accomplished and whether the results to the pupil are better or worse than under the old stereotyped form of algebra and geometry.

The first eighty pages are written in a spirit and form entirely new to algebras. The treatment is inductive and, as such treatment always requires, progress is necessarily slow unless the pages of the book are very rapidly covered. The first thirty-four pages are so simple as to be very easy reading. To explain negative numbers the "algebraic balance" is introduced. It may be questioned whether such a device saves time or adds to clearness.

Chap. vii is on "Uses of Inequalities," apparently introduced to allow application to certain theorems on geometry. Hall and Knight first introduce this subject on p. 279 of their *Algebra for Colleges and Schools*. Is it so simple that it can be abruptly interpolated before the ninth-grade pupil has studied factoring or fractions? Other difficult subjects introduced in the first eighty pages are: (1) the use of Greek  $\pi$ , p. 40; this abstraction continues to give difficulty to eleventh-grade students; (2) the use of radical signs introduced *without explanation* in connection with the pendulum formula, p. 42; (3) drawing to scale, pp. 44 ff.; (4) the problem of finding the distance between two inaccessible points, p. 47; this is the most difficult problem of plane trigonometry; (5) the equation of moments (not so called by name), pp. 56-79—one of three or four most difficult experiments in physics.

In chap. xii, "the Simple Equation," are found for the first time clear, succinct statements of the fundamental axioms. They have been *inductively* derived in the course of seventy-seven pages of text. Definitions up to this point have been few. Some are worded very carelessly, as: "A number having a positive or plus (+) sign before it is called a *positive* number" (p. 5). The question is immediately asked, "What is a *negative* number?" Will this encourage logical or accurate thinking?

Pp. 88-167 contain a treatment of equations containing fractions; factoring; addition and subtraction; ratio, proportion, and similarity; linear equations containing two unknown numbers; quadratic equations. The final chapter is on logarithms. These pages lack sufficient problems for practice and cannot be commended for logical coherency.

The query arises, what will the pupil *know* of mathematics after having spent one year on such a course as this? The authors say the experiment has been sufficiently satisfactory to justify its continuation. Results must speak for themselves. If such methods produce more satisfactory results than the old, they must be adopted. No such carefully worked-out plan has heretofore been presented. It therefore deserves the thoughtful consideration of every teacher.

In many particulars this book deserves great commendation. The idea of unifying the mathematical course is admirable. The discussion of similar triangles is excellent. Introduction of graphical methods of solution is to be encouraged.

FRANKLIN T. JONES

UNIVERSITY SCHOOL  
Cleveland, Ohio

*Elementary Woodwork for Use in Manual Training Classes.* By FRANK HENRY SELDEN. Chicago: Rand, McNally & Co., 1906. Pp. 206.

The object of the work is to place before pupils such information as will lead to correct tool practice. In a series of elementary exercises (constituting Part I) the common tools are taken up in the order the author has found best. The objects suggested for construction—bench hook, corner bracket, halved corner, tee, cross, etc.—are selected with reference to tool sequence, interest of the pupils in the constructions carrying little weight. Exercises (Part II) involving the bridle, dowel, miter and glue joint, etc., supplement the series given above. The third division of the work is devoted to the description and use of tools and to the consideration of some of the materials employed in the constructions. While the methods shown may be in line with practice, while there may be sequence in tool development, a wealth of illustration and carefully prepared texts, yet a textbook to be highly valuable to pupils in elementary woodwork should be planned on broader lines, giving some insight into the underlying industries; a range of constructions influenced by sequence, environment, and interest to some extent at least.

O. L. McMURRY

CHICAGO NORMAL SCHOOL

*The Psychology of Public Speaking.* By WALTER DILL SCOTT. Philadelphia: Pearson Bros., 1907. Pp. 222.

In the development of his subject the author first considers mental imagery as observed in individuals and in masses, and arrives at the conclusion that clear and varied imagery is necessary to complete appreciation. Secondly, the James-Lange theory of the emotions is explained and applied to the use of voice and action in expression. Thirdly, the writer considers the audience, and lays down some fundamental principles regarding the securing of attention, the rendering of an audience suggestible, and the development of the homogeneous crowd.

So far as we know, this book is the first publication of what might be called a psychology for public speakers. In giving to the world the results of his investigations in this field, Professor Scott has contributed a valuable gift to all who would know more of the difficult art of interesting and persuading public audiences.

F. M. BLANCHARD

THE UNIVERSITY OF CHICAGO

*School Hygiene and the Laws of Health.* By CHARLES PORTER, M.D. New York: Longmans, Green & Co. Pp. 304.

This book is based upon a course of lectures, delivered to the teachers, acting under the Educational Commission of Sheffield, England, and the students of the Sheffield Training College.

Part I is devoted to the school child. The arrangement of the material is excellent and is especially adapted to the use of school teachers and officers, either for a textbook or for reference. Its chief characteristic is the grouping of hygienic considerations that relate to a given subject, e. g., circulatory, digestive, special senses, etc., in the chapter that describes the normal structure and

physiology. The discussion of nervous strain and fatigue in general is admirable, based as it is on the results of observations made to determine the amount of time during which children of different ages can fix the attention. Simple and practical suggestions are made for the detection and, so far as it is in the teacher's power, the prevention of fatigue phenomena.

Part II deals with the school building and its surroundings, and is in the main a discussion of the regulations of the Board of Education, governing the construction, furnishing, lighting, ventilating, and heating of school buildings. It is interesting to note that the English regulations make provision for a playground space of not less than thirty square feet per pupil, and that this is to be provided with roofed-over places, preferably against the north and east boundaries, for use in stormy weather.

The book is well adapted for use in normal courses for training teachers.

*Hygiene.* By NOTTER AND FIRTH. New York: Longmans, Green & Co. Pp. 491.

This work is in its sixth edition. It covers the entire field of hygiene, sanitation, and parasitic diseases. It contains a large amount of valuable information in condensed form, but it is manifestly impossible, in so small a book, to discuss the subjects attempted, adequately. The type is small and the pages crowded, and the whole book suffers from the attempt to crowd much material in a small compass. Its particular value would be as a handy book of reference.

JOSEPH E. RAYCROFT

THE UNIVERSITY OF CHICAGO

## BOOKS RECEIVED

### EDUCATION

*Report of the Commissioner of Education for 1906.* Vol I. Washington, D. C.: Washington Printing Office, 1907. Pp. xlvii+643.

*Course of Study for the Common Schools of Illinois.* Fourth General Revision. Revised by the Standing Committee of the County Superintendents' Section of the State Teachers' Association. Taylorville, Ill.: C. M. Parker, 1907. Pp. 278. \$0.30.

*Play—Its Value, and Fifty Games.* A Book for Boys and Girls, for Mothers and Teachers. By NINA B. LAMKIN. Published by the author, 42 Forty-second Place, Chicago, 1907. Pp. 91. Illustrated. \$0.60.

*English High Schools for Girls: Their Aims, Organisation, and Management.* By SARA A. BURSTALL. New York and London: Longmans, Green & Co., 1907. Pp. 243.

### ENGLISH

*A Collection of Eighteenth-Century Verse.* Selected and edited by MARGARET LYNN. New York: The Macmillan Co., 1907. Pp. 484. \$1.10.

*A Handbook of Composition.* (A compendium of rules regarding good English, grammar, sentence structure, paragraphing, manuscript arrangement, punctuation, spelling, essay writing, and letter writing.) By EDWIN C. WOOLLEY. Boston: D. C. Heath & Co., 1907. Pp. 239. \$0.80.

- Stevenson's Master of Ballantrae.* Edited, with Introduction and Notes, by H. ADELBERT WHITE. New York: The Macmillan Co., 1907. Pp. 283. \$0.25.
- The Cambridge History of English Literature.* Vol. I, From the Beginnings to the Cycles of Romance. Edited by A. W. WARD AND A. R. WALLER. New York and London: G. P. Putnam's Sons, 1907. Pp. 561. \$2.50.
- Specimens of Prose Composition.* Edited, with Introduction and Notes, by CHARLES READ NUTTER, FRANK W. C. HERSEY, AND CHESTER NOYES GREENOUGH. Boston: Ginn & Co., 1907. Pp. 478. \$1.25.
- Essays by Ralph Waldo Emerson.* (Merrill's English Texts.) Selected and edited, with Introduction and Notes, by EDNA H. L. TURPIN. This volume contains "The American Scholar," "Compensation," "Self-Reliance," "Friendship," "Heroism," "Manners," "Gifts," "Nature," "Shakespeare; or, the Poet," "Prudence," and "Circles." New York: Charles E. Merrill & Co., 1907. Pp. 336.

## LATIN AND GREEK

- Introductory Latin.* By FRANK PRESCOTT MOULTON. Boston: D. C. Heath & Co., 1907. Pp. 268. Illustrated. \$1.00.
- Aeschylus: Prometheus Bound.* Translated by ROBERT WHITELAW. Edited, with Introduction and Notes, by J. CHURTON COLLINS. London and New York: The Oxford University Press, 1907. Pp. xlviii+53.
- Aeschylus: Agamemnon.* Translated by JOHN CONINGTON. Edited, with Introduction and Notes, by J. CHURTON COLLINS. London and New York: The Oxford University Press, 1907. Pp. xlviii+74.

## GERMAN

- Heine's Die Harzreise.* (Heath's Modern Language Series.) Edited, with Introduction, Notes, and Vocabulary, by B. J. VOS. Boston: D. C. Heath & Co., 1907. Pp. xvii+196. \$0.45.
- Riehl's Burg Neideck.* (Heath's Modern Language Series.) Edited, with Introduction, Notes, Exercises, and Vocabulary, by J. B. E. JONAS. Boston: D. C. Heath & Co., 1907. Pp. 139.
- Hoffmann's Das Fräulein von Scuderi.* Edited, with Introduction and Notes, by GUSTAV GRUENER. New York: Henry Holt & Co., 1907. Pp. xx+105.

## SPANISH

- Spanish Correspondence.* By E. S. HARRISON. New York: Henry Holt & Co., 1907. Pp. 157.

## HISTORY

- American History.* (For use in secondary schools.) By ROSCOE LEWIS ASHLEY. New York: The Macmillan Co., 1907. Pp. xlvii+557. Maps and Illustrations.

## MATHEMATICS

- A High School Course in the Differentiated Calculus: First Lesson.* By CHARLES N. SCHMALL. Published by the author, 89 Columbia St., New York, 1907. Pp. 20.

